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ABSTRACT

This generative grammar of Korean analyzes the syntactic aspects of case markers, delimiters, complementation, and relativization. C. J. Fillmore's case grammar is adopted as the overall framework. Case markers and delimiters are seen to interact in two ways: one is obligatory deletion of the nominative and accusative markers before any delimiter, and the other is permutation of certain case markers with certain delimiters. It is explained, by means of constituent structure rules and transformations, how cases are realized on the surface, how case markers are multiplied, how they alternate from one and the same case, how they are deleted, and how to introduce delimiters into a grammar of Korean. Complementation is divided into verbal and nominal complementation. Compound verbs, one of the distinguishing characteristics of Korean syntax, are derived by the process of verbal compounding, which in turn is based on complementation. Equi-subject and non-equi-subject constraints are investigated, with special attention being given to verbs of self-judgment. Relativization is examined through the analysis of the underlying differences between certain superficially similar constructions and relativeized structures. Korean relativization necessarily involves the deletion of goal, source, and comitative markers, which results in ambiguity and anomaly in the relativized structures. It is shown that specificity plays a significant role in relative clauses. (Author/PM)

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KOREAN SYNTAX:

CASE MARKERS, DELIMITERS, COMPLEMENTATION, AND RELATIVIZATION

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF
THE UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN LINGUISTICS

MAY 1972

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BY

In-Seok Yang

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To my teacher,

Professor Stanley Starosta

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FOREWORD

The best thing that I can say about the current work is that it is a generative grammar. It covers case marking in simple and complex sentences, noun delimiters, complementation, and relativization in the Korean language, and it covers them competently, insightfully, and thoroughly. It doesn't cover everything. If Dr. Yang had had his way, it would have, but there comes a time when a thesis adviser has to discreetly suggest that the author leave a little for other linguists to do. However, it does cover a sizeable enough portion of the syntactic facts to be called at least 'a grammar' if not 'the grammar' of Korean, and it is unusual these days to see anything like a full grammar of any language.

Even more unusual is the fact that this work comes very close to being a true generative grammar. Generative means explicit and explicit means empirically testable. It should be possible to use a scientific hypothesis to derive exact formal predictions, which can then be matched against empirically observed facts which either confirm or disconfirm it. A generative grammar is a scientific hypothesis about the structure of a language, and is subject to exactly the same requirements as any other scientific hypothesis. Dr. Yang's work comes very close to being such a hypothesis, a truly generative grammar. It is possible with this grammar to generate a deep strucutre and derive a surface structure by clear and explicitly formulated rules. I can think of almost no other grammar that can make that statement.

There are gaps. For example, the lexicon has not been developed, and little is said generatively about morphophonemics. However, because this grammar is explicit, that is, generative, the gaps show up clearly, and a Korean linguist who reads this work carefully will know exactly what has been done and what remains to be treated.

This dissertation makes a contribution to linguistic theory as well as to the knowledge of Korean syntax. In particular, Dr. Yang has taken Fillmore's ideas and his own, and used them to create a formal, workable system for the generative description of a real language. In the process, he has met and overcome difficulties never suspected by those who made no attempt to write generative (formalized) grammars. Other difficulties remain to be mastered, but now at least we know where they are. This is at the same time the weakness and the strength of generative grammars, and I feel it is premature to give up the attempt to write them. A generative grammar can be written and Dr. Yang's dissertation comes close to being one.

Stanley Starosta

ABSTRACT

This study attempts to explore some syntactic aspects of case markers, delimiters, complementation, and relativization. Case Grammar is adopted as the over-all framework.

Chapter 2 deals with case markers and delimiters. This study broadens our scope of investigation to general distinctions between case markers and delimiters. Attachment transformation for the introduction of delimiters into a grammar of Korean (and Japanese) is discussed, and an alternative is suggested to the effect that delimiters must be introduced in deep structure immediately after the element (i.e. its scope) with which they co-occur. Case markers and delimiters interact in two ways: one is obligatory deletion of the nominative and accusative markers before any delimiter, and the other is permutation of certain case markers with certain delimiters. The accusative marker may optionally replace certain other case markers. Accusative intrudability is allowed within the scope of case marker deletability. So-called double subjects or triple subjects are systematically explained by the macro-micro analysis. In fact, any case marker can be multiplied many times. The variation of case markers is subdivided into free and systematic variation. Systematic variation is explained by the process of verbal compounding.

Chapter 3 deals with complementation. Complementation is divided into verbal complementation and nominal complementation. Compound verbs (which are one of the distinguishing characteristics of Korean syntax) are systematically derived by the process of verbal

compounding which in turn is based upon complementation. By invoking verbal compounding we can explain the multiplication and systematic variation of case markers. Equi-subject and non-equi-subject constraints are thoroughly investigated. Verbs of self-judgment are given special attention in conjunction with the equi-subject constraint. De-constraining mechanisms are also discussed. The long-form causative has (at least) two readings (i.e. causative and permissive) while the short-form causative has one reading (i.e. causative). These two are systematically related and appropriate constraints are postulated.

Chapter 4 deals with relativization. The Korean counterpart of the English restrictive relative clause is a type of conjunction. Relativization in Korean is mainly the process of non-distinctness deletion. There are certain superficially similar constructions. Their deep structures, however, are quite different. One type is a relativized structure, where the controlled NP must have the feature 'specificity'. The other is an appositive complementation, where the appositive complementizer is coreferential with the whole constituent sentence. Korean relativization necessarily involves obligatory deletion of the case marker which is attached to the controlled NP. The deletion of goal, source, and comitative markers results in ambiguity or anomaly of the relativized structure. When adverbials are relativized, the relativized structure results in ambiguity or anomaly in many instances. Speculations are made as to the possible explanation for such phenomena. Complementation, relativization, and conjunction involve Modality Adjustment, which adjusts the modality elements of constituent sentences in the process of the connection of constituent and matrix sentences.

It seems that phenomena observed in this study also hold true in Japanese mutatis mutandis in many respects.

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Chapter 1

Introduction

1.1. Purpose, Scope, and Framework

This study attempts to explore some syntactic aspects of case markers, delimiters, complementation, and relativization in complex sentences as well as in simplex sentences.

Most previous studies on case markers and delimiters were confined rather to functional differences of *ka* vs. *nɨn* (cf. Japanese *ga* vs. *wa*). This study broadens our scope of investigation to general distinctions between case markers and delimiters. We attempt to explore how case markers and delimiters interact; how Cases are realized on the surface; how case markers are multiplied; how case markers alternate for one and the same Case; how case markers are deleted; and how to introduce delimiters into a grammar of Korean. For these phenomena this study attempts to provide systematic explanations by means of constituent structure rules and transformations.

Complementation will be divided into verbal complementation and nominal complementation. The process of verbal compounding will be investigated in conjunction with verbal complementation. Two types of causatives (i.e. the long-form causative and the short-form causative) will be systematically related through the process of verbal compounding. In complement constructions, equi-subject and non-equi-subject constraints will be explored; special attention will be given to verbs of self-judgment, which pose many interesting problems. In relativization we will attempt to explore the underlying differences between certain superficially similar constructions, and ambiguity and anomaly of relativized structures. It will be shown that specificity plays a significant role in relative clauses. Modality adjustment will be investigated in complementation and relativization.

This study adopts Fillmore's Case Grammar as an over-all framework. Fillmore (1968a) argues that Chomsky's (1965) configurational relations such as 'subject-of', 'object-of' etc. are not deep structure relations but surface structure phenomena. In other words, Subject/Object Grammars do not reveal deeper insights into the semantically relevant syntactic relations between arguments (i.e. NP's) and predicates (i.e. chiefly verbs). Fillmore introduced into linguistic theory the notion of 'role structure' of an NP with respect to a verb. Role structures are case frames; and case markers, prepositions, post-positions, or affixes (whatever we call them) are surface realization of Cases.

It seems to me that phenomena observed in this study also hold true in Japanese *mutatis mutandis* in many respects.[1]

1.2. Constituent Structure Rules

In this section, I will introduce the following (incomplete) constituent structure rules which are relevant for the purpose of this study.[2] These rules and some significant problems therewith will be discussed. Symbols will be explained in the ensuing discussion.

Given: # S #

1. $\text{S} \longrightarrow \text{P (PreM) M (Conj)}$

2. $\text{P} \longrightarrow \text{(A I E I I I O I SO I G I L I T I CO) V}$

3. $\text{PreM} \longrightarrow \text{(Adv I Neg I Hon)}$

4.
$$\begin{bmatrix} \text{A} \\ \text{E} \\ \text{I} \\ \text{O} \\ \text{SO} \\ \text{G} \\ \text{L} \\ \text{T} \\ \text{CO} \end{bmatrix} \longrightarrow \left\{ \begin{array}{l} \begin{bmatrix} \text{A'} \\ \text{E'} \\ \text{I'} \\ \text{O'} \\ \text{SO'} \\ \text{G'} \\ \text{L'} \\ \text{T'} \\ \text{CO'} \end{bmatrix} \\ \\ \begin{bmatrix} \text{A'} & - & \text{A} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{E'} & - & \text{E} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{I'} & - & \text{I} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{O'} & - & \text{O} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{SO'} & - & \text{SO} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{G'} & - & \text{G} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{L'} & - & \text{L} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{T'} & - & \text{T} \\ [\text{-Micro}] & & [\text{+Micro}] \\ \text{CO'} & - & \text{CO} \\ [\text{-Micro}] & & [\text{+Micro}] \end{bmatrix} \end{array} \right\}$$

5.
$$\begin{bmatrix} \{\text{A', E', I', O', SO', G', L', T', CO'}\} \\ \text{Adv} \\ \text{Conj} \end{bmatrix} \longrightarrow$$

$$\begin{bmatrix} \text{NP - K} \\ \text{Adv'} \\ \text{Conj'} \end{bmatrix} \text{(X-lim) (Y-lim) (Z-lim)}$$

6. NP $\longrightarrow$ $\begin{Bmatrix} \text{(S) (Spec) N (Pl)} \\ \text{S - Comp} \end{Bmatrix}$

7. M $\longrightarrow$ Tns $(\underline{\text{kess}})$ SL - Md - S-type

8. Tns $\longrightarrow$ $\begin{Bmatrix} \text{Future} \\ \text{Present} \\ \text{Past (Past)} \end{Bmatrix}$

9. SL $\longrightarrow$ $\begin{Bmatrix} \text{Autho} \\ \text{Fol} \\ \text{Fal} \\ \text{Inti(1)} \\ \text{Inti(2)} \\ \text{Plain (=Neut)} \end{Bmatrix}$

10. Md $\longrightarrow$ $\begin{Bmatrix} \text{Indi} \\ \text{Retro} \\ \text{Acti} \end{Bmatrix}$

11. S-type $\longrightarrow$ $\begin{Bmatrix} \text{Stat} \\ \text{Ques} \\ \text{Comm} \\ \text{Sugg} \end{Bmatrix}$

PS (1) claims that a sentence is composed of a proposition and a modality. For this initial constituency, I follow Fillmore's (1968a:23) proposal. The order of the modality and the proposition (cf. Fillmore, 1968a:23) is reversed to accommodate Korean order. The modality constituent here corresponds to the so-called 'verbal affix' or 'verbal ending' (cf. Song, 1967, Kim-Park, 1967, Ree, 1969) or 'auxiliary' (cf. Cook, 1968). The modality constituent seems to deserve its independent constituency. Korean has a very general and well-motivated rule, what I call Modality Deletion (cf. 3.1 and 4.1.), which involves this constituent. Modality Deletion is operative in verbal complementation, some of the nominal complementations, relativization, and conjunction. Another rule which is connected with the modality constituent is Modality Preserving, which is operative in the phenomenon of 'double modality' in Korean (cf. Yang, 1971b). It should be noted that the agglutinative characteristics of Korean are most frequently manifested in surface realizations of the modality elements.

A questionable constituent in PS (1) is the pre-modality, which consists of adverb, negative and honorific in PS (3). Adverbs and negatives in conjunction with quantifiers require further study. It may be that adverbs and negatives call for a higher predicate analysis, as generative semantists have proposed.[3] In this study I put them, for convenience, in the pre-modality constituent. Fillmore (1966:9) dichotomized adverbials. All adverbials capable of becoming subjects or objects were introduced in the expansion of Proposition; all others (time, benefactive, frequentative, etc.) were Modality elements. Fillmore (1968a:23, Footnote 29) modifies his earlier view on adverbials to the effect that many sentence adverbials (e.g. unfortunately, willingly, easily, carefully, etc.) are to be introduced from superordinate sentences by the 'Infrajection' transformation (which has not yet been formalized). In the 1968 model, modality elements are Neg, Tense, Mood, Aspect, etc. This study does not regard adverbials such as 'reason' and 'manner' as Cases (cf. 4.2.).

PS (2) claims that the proposition is composed, in terms of symbolic logic, of one predicate and one or more arguments. In Case Grammar, Fillmore (1968c) equates the predicate with the verb and the argument with the Case. How many Cases are allowed or required in a simplex sentence depends upon characteristics of the verb; that is, a verb may require one Case (i.e. a one-place predicate) or two Cases (i.e. a two-place predicate) and so on. The lexicon will specify such characteristics of verbs in terms of case frames. Chomsky's (1965) 'strict subcategorization' of verbs partially corresponds to Fillmore's case frame. This study does not attempt an exhaustive treatment of the lexicon of Korean.

The following Cases are postulated in this study.[4] Definitions are from Fillmore (1968a, b, 1971), except as noted:

Agent (A).............	The instigator of an event (1968b:77).
Experiencer (E).......	The entity which receives or accepts or experiences or undergoes the effect of an action (1968b:77). The old Dative is reanalyzed as Goal or Experiencer. Where there is a genuine psychological event or mental state verb, we have Experiencer (1971:251).
Instrument (I)........	The stimulus or immediate physical cause of an event (1968b:77).
Object (O)............	The entity that moves or changes or whose position or existence is in consideration (1968b:77).
Source (SO)...........	The place from which something is directed (1968b:77). The starting point (1971:28).

Goal (G)..............	The place to which something is directed (1968b:77). The destination (1971:28).
Location (L)..........	The location or spatial orientation of the state or action (1968a:25).
Time (T)..............	The point or interval of the time of the state or action (Starosta, personal communication).
Comitative (CO).......	The case which is associated in a parallel way with another case (Taylor, 1971).[5]

Fillmore's linked parenthesis notational convention, which is invoked in PS (2), says that at least one of the linked constituents must be chosen. The invocation of the linked parenthesis convention in PS (2) implies that in the underlying structure Korean has no sentence containing only a verb and no Case constituents. The order of Cases in PS (2) requires some comment. Fillmore (1968a, 1970b, 1971) postulates the subject choice hierarchy (= the case hierarchy for the subject choice) for English as: A, E, I, O, SO, G, L, T. This order of Cases is a roughly suitable subject choice order for Korean. Consider the following examples:[6]

(1) a. John-ka (usan-lo) Mary-lɨl tteli-Ass-ta
Nom umbrella Inst Acc hit Past Stat
'John hit Mary (with the umbrella).'

tteli 'hit' + [A, (I), O, ___]

b. na-ka Mary-ka coh-ta
I Nom Nom fond-of Stat
'I am fond of Mary.'

coh 'fond of' + [E, O, ___]

c. hanɨl-ka noph-ta
sky Nom high Stat
'The sky is high.'

noph 'high' + [O, ___]

d. John-ka (mangchi-lo) mun-lɨl kke-Ass-ta
Nom hammer Inst door Acc break Past Stat
'John broke the door (with the hammer).'

e. mangchi-ka mun-lɨl kke-Ass-kun
hammer Nom door Acc break Past Apper
'Aha! A hammer broke the door.'

f. * mun-ka kke-Ass-ta
door Nom break Past Stat
'The door broke.'

kke 'break' + [(A)(I), O, ___]

g. Mary-ka (cəskalak-lo) pap-lɨl mək-nɨn-ta
Nom chopstick Inst food Acc eat Indi Stat
'Mary eats food (with chopsticks).'

h. * cəskalak-ka pap-lɨl mək-nɨn-ta
chop-stick Nom food Acc eat Indi Stat
'Chopsticks eat food.'

i. * pap-ka mək-nɨn-ta
food Nom eat Indi Stat
'Food eats.'

mək 'eat' + [A, (I), O, ___]

As the case frames above show, information of the subject choice hierarchy is realized in the order of Cases in the case frames. If Cases (i.e. informally NP's) are arranged in the underlying structure according to the subject choice hierarchy, it is easy to formulate normal case marking transformations (cf. 2.1.) so that the left-most Case is automatically chosen as the subject on the surface. For example, in the above the left-most Case varies, but the case marker for the left-most Case is constant, namely, the Nominative marker ka.

It should be noted that in Korean (and Japanese) Instrument or Object usually cannot be the surface subject in a sentence which has the traditionally called transitive verb. In other words, English sentences like Fillmore's classic examples 'The hammer broke the window' and 'The window broke' do not have the corresponding sentences in Korean. Sentence (1e) which has Instrument as the subject is not a usual sentence but a personification. Sentences like (1f, i) are never available in any situation. The most natural translation of the English sentence 'The window broke' is a passive: chang-mun-ka kke-A-ci-Ass-ta, which is also the translation of the English sentence 'The window is broken'. The most natural translation of 'The hammer broke the window' is hammer-lo changmun-lɨl kke-Ass-ta, which is equivalent to the translation of '(Unknown agent) broke the window with the hammer'.

PS (4) is a very crucial rule for this study in the sense that a concept of 'macro-micro' relation (cf. 2.2.) is introduced. The macro-micro relation refers to a relation between a whole NP (i.e. the macro-NP) and a subpart of it (i.e. the micro-NP). This relation is recursive. The recursiveness is restricted in the sense that only the micro-NP branches again into another macro-NP and micro-NP. This fact is accounted for by PS (4). If we follow the first expansion of this rule, the output will be constructions which are not the macro-micro relation. On the other hand, if we follow the second expansion, the output will be constructions of the macro-micro relation. Recursiveness of the macro-micro relation is realized through the second constituent of the second expansion. If we do not incorporate the macro-micro construction in our grammar, the first expansion of PS (4) is utterly out of place.

The so-called 'double-subject' constructions have puzzled grammarians who have studied Korean and/or Japanese, and various proposals have been made. This study proposes the macro-micro analysis for the solution of one of the sources of the multiplication of case markers. By 'multiplication', I mean that the same case marker is allowed to occur more than once in a simplex sentence. The traditional term 'double subject' is misleading; the phenomenon under discussion is not confined only to the subject, and it is not confined only to 'doubling'. As we will see in (2.2.), any case marker may be multiplied many times.

PS (5) is also a very important rule for this study in the sense that delimiters are treated in a different way from that in previous studies. This rule is postulated to account for the phenomena that case markers are suffixable only to NP's, but delimiters are suffixable not only to NP's but also to adverbs and conjunctors. The following sentences show that delimiter(s) may cooccur with an adverb and a conjunctor:

(2) Adverb plus Delimiter(s)

a. Mary-ka kənpang-ci-ke- kkaci-nɨn ani ha-nɨn-ta
Nom rambunctiously X-lim Z-lim not do Indi Stat
'Mary's behavior never gets to the point of being rambunctious.'

Conjunctor plus Delimiter(s)

b. tiko-lɨl ha- ɨl- tte- man-nɨn
prayer Acc do Ajst-M time Y-lim Z-lim

wha-lɨl ne-ki ma- si- o
anger Acc produce Comp not Acti Comm
'At least only when you pray, do not get angry.'

In 2.4. we will see how case markers and delimiters interact. Interaction of case markers and delimiters is realized as (1) the deletion of certain case markers before delimiters and (2) the permutation of certain case markers with certain delimiters.

PS (6) will account for sentential recursion: complementation and relativization. The first expansion is for relativization (cf. Chap. 4). The specifier refers to kɨ 'that, the', i 'this', cə 'that over there', ətten 'certain', etc. One might call this category 'determiner'. However, Korean (and Japanese) does not have the grammatical category like the English determiners 'the' and 'a'. Instead, the Korean lexical items cited in the above are rather similar to the English demonstratives. But the more general term is 'specifier' because the lexical item ətten 'certain' which behaves like kɨ, i and cə is not a demonstrative but a specifier (cf. 4.2.). Note that ətten has another use, i.e., interrogative demonstrative which. The concept of plurality in Korean is very often expressed by numerical counters rather than the plural morpheme tɨl. The plural morpheme has a special function; that is, it may be suffixable by a distribution transformation to almost any element of a sentence without affecting meaning if the subject has the plural morpheme (cf. Song, 1967:38-43). One may posit numerical counters or classifiers (e.g. *cip*, *han-che* 'house, one-building', *so*, *tu-mali* 'cow/ox two heads', etc.) after the noun (cf. Song, 1967:217-237, Kim-Park, 1967:18). This study, however, does not posit such a grammatical category independently. Instead, this study regards the relation of the noun and the numerical counter as an example of the macro-micro relation. For example,

(3) cip-ka han-che-ka pan-ka hongsu-e
house Nom one-blg Nom half Nom flood Agt

əps-A ci-Ass- ta
lose Comp become Past Stat
'A house, one building, its half was lost by the flood.'(Lit.)
'Half of one building was lost in the flood.'

The relations of *house*: *one building*, and *one building*: *its half* are examples of the macro-micro relation. The numerical counter *one building* in this sentence is the micro-NP of the macro-micro relation of *house*: *one building*. Notice that the macro-NP's and the micro-NP's have the same case marker (cf. 2.2.).

The second expansion of PS (6) accounts for sentential complementation. This study subcategorizes complementations into verbal complementations (for short, V-Comp) and nominal complementations (for short, N-Comp). This dichotomy is made for at least three reasons: (1) Modality Adjustment (to be specified in 3.1.) does not apply to V-Comp, whereas it applies to N-Comp, (2) V-Comp results in verbal compounding (which forms a compound verb), whereas N-Comp results in nominalization, and (3) Predicate Raising (to be discussed in 3.1.) obligatorily applies to V-Comp, whereas this rule does not apply to N-Comp. V-Comp includes *KO*-V-Comp, *A*-V-Comp, and *KE*-V-Comp. N-Comp includes *KI*-N-Comp, *ƗM*-N-Comp, *KəS*-N-Comp, *KO*-N-Comp, Suspect-Comp, *NƗN-KəS*-N-Comp, and Appositive Comp.

One of the issues in complementation is whether complementizers are to be introduced by a transformation (e.g. Complementizer Placement) or by a constituent structure rule. Rosenbaum (1967:25) says that there is no compelling evidence for accepting one formulation over the other, and he arbitrarily adopts the transformational alternative simply because this option is probably the most familiar. R. Lakoff (1968) adopts the transformational alternative because she believes that complementizers do not have their own semantic content. On the other hand, Bresnan (1970) adopts the constituent structure alternative because she believes that some complementizers (e.g. comparatives) have their own semantic content. As for me, I choose the constituent structure alternative in this study, since I believe that complementizers in Korean have their own semantic content and that complementizers are not fully predictable from the verb of the matrix sentence. In what follows, I will provide evidence that complementizers have their own semantic content.

In order to make the point clear, I will adopt the following strategy. I will provide pairs of sentences whose members are formally the same, except for complementizers, and yet are semantically different. Given these conditions, the semantic difference of a sentence pair must be ascribed uniquely to the semantic difference of complementizers. Since we will choose the same matrix verb for the sentence pair, we cannot claim that the type of complementizer is predictable from the matrix verb. First, let us consider the following sentence pair, where nominal complementizers ko and kəs are compared:

(4) a. John-nɨn [puin-ka papo i-la]-ko
Z-lim wife Nom stupid be Stat Comp

hanthanha-nɨn-ta
deplore Indi Stat
'John deplores that his wife is stupid.' (Non-factive)

b. John-nɨn [puin-ka papo i-ɨn]-kəs-lɨl
Z-lim wife Nom stupid be Ajət-M Comp Acc

hanthanha-nɨn-ta
deplore Indi Stat
'John deplores the fact that his wife is stupid.'
(Factive)

There is a presuppositional difference of non-factivity vs. factivity (cf. Kiparsky-Kiparsky, 1970) between these two sentences although this distinction is hard to represent in the translation of (4a), since deplore in English must presuppose the truth of its complement. The first sentence is non-factive, which means that the speaker does not presuppose that the proposition of the sentential complement is a fact. The sentential complement may be denied without violating the presuppositional system involved here. On the other hand, the second sentence is factive, which means that the speaker does presuppose that the proposition of the sentential complement is a fact. In this case, the sentential complement cannot be denied; otherwise, the presuppositional system involved here is violated.[7]

Since the two sentences are formally the same except for complementizers, we can ascribe the presuppositional difference (a semantic difference in a broad sense) uniquely to the difference of complementizers. This distinction between the above two sentences suggests that the dichotomy of factivity and non-factivity is specific rather to the matrix verb in English, but it is specific rather to the complementizer in Korean (and Japanese) (cf. footnote 6 of Chapter 3). The surface difference of modalities of the two sentences is a mechanical consequence of Modality Adjustment (to be specified in 3.1.).

Let us take another example. Nominal complementizers *ki* and *ɨm* are compared:

(5) a. hetap-nɨn [uli-ka kɨ munce-lɨl
answer Z-lim we Nom the problem Acc

yənkuha]-*ki*-e tal-li-A-iss- ta
explore Comp Loc depend Stat
'The answer depends on how we explore the problem.'(How)

b. hetap-nɨn [uli-ka kɨ munce-lɨl
answer Z-lim we Nom the problem Acc

yənkuha] -*ɨm*-e tal-li-A-iss- ta
explore Comp Loc depend Stat
'The answer depends on whether we explore the problem.'
(Whether)

In these two sentences, all the elements except for complementizers are identical. The matrix verb *tal-li-A-iss* in these sentences has only one reading 'depend'. The two sentences are semantically different. The first sentence has the reading of 'how', whereas the second sentence has the reading of 'whether'. This semantic difference must be ascribed uniquely to the difference of complementizers *ki* vs. *ɨm*. Thus, the data under consideration support the claim that complementizers have their semantic content, and thus must be present in the deep structure.

Verbal complementizers *ko* vs. *A* also provide evidence that complementizers have their own semantic content:

(6) a. uli-ka sip-li-lɨl ka-*ko* iss-ta
we Nom ten mile Acc go Comp exist Stat
'We are walking ten miles.' (Durative Aspect)

b. uli-ka sip-li-lɨl ka-*A* iss-ta
Comp
'We have walked ten miles.' (Perfective Aspect)

In these two sentences, all the elements except for complementizers are identical in their forms and meanings. The reading of the first sentence involves the durative (or progressive) aspect, whereas the reading of the second sentence involves the perfective aspect. The only possible source for such a semantic difference is the difference of complementizers. One may argue that this conclusion is spurious, since the constituent sentence in (6a) can be analyzed as having the present tense while the constituent sentence in (6b) has the past tense in the underlying structure. This may be the case. This counterargument, however, cannot hold true throughout relevant data. Observe the following data:

(7) a. John-ka sal-*ko* iss-ta
Nom live Comp exist Stat
'John is living at the same place.'

b. John-ka sal-*A* iss-ta
Comp
'John is still alive.'

In these two sentences, both constituent sentences have the present tense and yet the readings of these two sentences are different. The first sentence implies 'John has not moved to some place else'. The second sentence implies 'John is not yet dead'. This semantic difference must be ascribed to the difference of complementizers. Thus, the data under consideration also support the claim that complementizers in Korean have their own semantic content.

We now compare a nominal complementizer kəs and the suspect complementizer ci:

(8) a. na-nɨn [John-ka nonlihak-lɨl kongpuha-Ass-nɨn]-
I Z-lim Nom logic Acc study Ajst-M

ci-lɨl molɨ-Ass-ta
Comp Acc not-know past Stat

'I did not know whether John studied logic.'

b. na-nɨn [John-ka nonlihak-lɨl kongpuha-nɨn]-
I Z-lim Nom logic Acc study Ajst-M

kəs-lɨl molɨ-Ass-ta
Comp Acc not-know Past Stat

'I did not know that John studied logic.'

The sentential complement in (8a) expresses uncertainty, whereas the sentential complement in (8b) expresses certainty (i.e. fact). The surface difference between modalities of the two complements is a mechanical consequence of Modality Adjustment. Thus, the data under consideration also provide evidence that complementizers have their semantic content.

Thus far we have compared almost all complementizers except appositive complementizers in one way or another, and we have found that complementizers have their own semantic content. It is clear that appositive complementizers (to be discussed in 4.2.) have their own semantic content, and they must be represented in the base.

The same thing can be said for English. Keenan (1969:13-14) observes that _that_-complements and _to_-complements must be represented in the base at least for verbs such as _forget_, _persuade_, etc. He cites the following examples:

(9) a. John forgot _that_ he put the cat out.
    b. John forgot _to_ put the cat out.

(10) a. John persuaded Mary _that_ she broke the vase.
     b. John persuaded Mary _to_ break the vase.

(9a) logically implies that in fact John put the cat out, whereas (9b) does not. (10a) implies that Mary believed she broke the vase, whereas (10b) has no such consequence.

Karttunen (1971:60-61) states that in the subjunctive mood _that_-complements require truth in the actual world but _poss-ing_-complements may be used with the understanding that they are fictitious. He cites the following examples:

(11) a. _That_ his bride is not a virgin would bother Harry if he knew about it. *Luckily she is a virgin.
     b. _His bride's not being_ a virgin would bother Harry if he knew about it. Luckily she is a virgin.

(11a) presupposes that Harry's bride is in fact not a virgin, whereas (11b) does not have this presupposition.

In the above we have compared the three types of complementizer of English in one way or another, and we have found that complementizers have their own semantic content. These English examples seem to support my claim that complementizers have their own semantic content and that they must be represented in the base. It has usually been claimed that complementizers are predictadble from the matrix verb. This must be restated in my theory as: for many verbs there is a selectional restriction between the complementizer and the matrix verb.

If we adopted a more abstract model, we might assign the semantic difference directly to embedded sentences. In this case, we must invoke some arbitrary symbols or features in order to show the semantic difference of sentential complements, and formulate a rule which will replace the postulated arbitrary symbol or feature by the appropriate complementizer. In this study, the semantic difference of sentential complements is assigned to the complementizers, since sentential complements cannot be formally distinguished except by complementizers.

As to the Case determination of the sentential complement, Fillmore (1968a:41) suggests that the sentential complement be confined only to the Object Case (cf. the Neutral Case in Stockwell et al, 1972). The following data, however, shows that Fillmore's claim does not hold true at least for Korean:

(12) a. John-ka Mary-hako kyəlhonha-ki-lo
Nom Com marry Comp Goal

kyəlsimha-Ass-ta
determine Past Stat
'John made up his mind to marry Mary.'

b. sənkong-nɨn nolyəkha-ki-e talli-A-iss- ta
success Z-lim effort Comp Loc depend exist Stat
'Success depends upon making efforts.'

c. kɨ-tɨl-nɨn whattho-chi-ki-lo neki-lɨl ha-Ass-ta
they Z-lim card-playing Comp Inst betting do Past Stat
'They decided on a bet by playing Cards.'

(13) a. cinli-nɨn kiphi sengkakha-ɨm-e iss-ta
truth Z-lim deeply think Comp Loc exist Stat
'Truth lies in thinking deeply.'

b. ssaum-nɨn oheha-ɨm-esə o-nɨn-ta
fight Z-lim misunderstand Comp Source come Indi Stat

'Fighting arises from misunderstanding one another.'

c. kɨ-tɨl-nɨn caki-tɨl-lɨl hɨisengha-ɨm-lo nala-lɨl
they Z-lim self Pl Acc sacrifice Comp Inst nation Acc

cikhi-Ass-ta
defend Past Stat
'They defended the nation by sacrificing themselves.'

As the above data show, sentential complements function as Goal, Source, Location, Instrument, etc. Cases as well as the Object Case. Semantically, such an interpretation has no flaw according to Fillmore's concept of Cases. The fact that sentential complements also function as such Cases can be accounted for by postulating the following notational convention for the case frames:

(14) a. kyəlsimha 'determine': $+ [A, [S]_G, \_\_\_]$

b. talli 'depend': $+ [O, [NP, S]_L, \_\_\_]$

c. cikhi 'defend': $+ [A, O, [NP, S]_I, \_\_\_]$

In the case frame (14a), $[S]_G$ reads: the sentential complement is the Goal Case. In the case frame (14b), $[NP, S]_L$ reads: the Location Case may be an NP or a sentential complement. In the case frame (14c), $[NP, S]_I$ reads: Instrument Case may be an NP or a sentential complement.

Note that Fillmore (1971:252) quite recently recognizes that a sentential complement can be Goal Case.

> "A sentence embedded as Goal is one which identifies the resulting state or event in a causative construction." (1971:252) (Underline is mine).

This passage must be interpreted to the effect that a sentential complement cannot be confined only to the Object Case.

PS (7) expands the modality constituent. Let us consider the following sentence, which includes all the possible grammatical categories of the modality constituent (except for the causative formative which occupies the same slot as the passive formative):

(15) koki-ka cal ani cap- hi- si- Ass- Ass-
fish Nom well not catch Pass Hon Past Past

kess- sɨp- ni- ta
Conject Fol Indi Stat
'(I tell you-Honor that) fish would not have been caught easily.'

The surface sequence of the morphemes of this sentence shows the following linear arrangment of the pre-modality and the modality constituents:

$$(16)\quad \underbrace{\text{Adv} - \text{Neg} - \text{V} - \begin{Bmatrix}\text{Pass}\\ \text{Cause}\end{Bmatrix} - \text{Hon}}_{\text{(Pre-Modality)}}\ \ldots$$

$$\underbrace{\text{... Tense - Tense - }\underline{\text{kess}}\text{ - Speech Level - Mood - S-type}}_{\text{(Modality)}}$$

In (16), a natural syntactic break occurs between the honorific and the tense in the sense that Modality Deletion applies to the elements from the tense to the S-type. For this reason, I subdivide the total modality into the pre-modality and the modality constituents.

If we introduce the performative analysis[8] (cf. Austin, 1962, Ross, 1970, Lee H-B., 1970) into Korean syntax, we can predict some modality elements such as the honorific, the SL, and the S-type, and lower them into the surface sentence from the performative hypersentence by transformation. The passive and the causative formatives are both transformationally introducible. Thus, the modality elements can be treated in the following way, where (PS) and (T) refer to constituent structure introduction and transformational introduction respectively:

(17) Pre-Modality: Adv - Neg - $\begin{Bmatrix}\text{Pass}\\ \text{Cause}\end{Bmatrix}$ - Hon

(PS) (PS) (T) (T)

Modality: Tense - kess - SL - Mood - S-type

(PS) (PS) (T) (PS) (T)

This study, however, does not incorporate the performative analysis in terms of rule formalism, and instead postulates modality elements as in PS (7-11). In this study, the performative analysis will be cited only on an informal basis. In what follows, I will discuss some noteworthy phenomena involved in modality elements.

Conceptually we can subcategorize tense into the past-past, the past, the present, and the future. On the surface only the past has the form (*Ass*). When it is doubled, it becomes the past-past (*Ass-Ass*). The present and the future are not lexically realized in a simplex sentence. If a simplex sentence does not contain the past or the past-past formative, the sentence has the reading either of the present or of the future according to the time adverbial or some other clues. The tense and the time adverbial must agree, but I will not handle this in the present study. As to the future, it is signalled by an embedded sentence rather than an unembedded sentence, except for the case where the formative *kess* has the reading of future as a subsidiary function. Consider the following sentences:

(18) a. John-ka o- nɨn- ta
Nom come Indi Stat
'John comes/is coming/will come.'

b. John-ka neil o- nɨn- ta
tomorrow
'John will come tomorrow.'

c. John-ka (neil) o- ɨl kəs i- ta
Ajst-M Comp be Stat
'John will come (tomorrow).'

(18a) is ambiguous as to its tense and aspect; it may be the present, the future, or the present progressive. (18b) has the reading only of the future because of the future time adverb *tomorrow*. (18c) has the reading only of the future whether the future time adverb *tomorrow* is present or absent. The reason is that the adjusted modality *ɨl* is used when the tense of the constituent sentence follows that of the matrix sentence in the time sequence in constructions with KəS-N-Comp. We will return to this topic in 3.1.

In the above, I stated that the future tense has an embedded device. This statement, however, must be generalized to all types of tense. Cook (1968:89-95) states that Korean has a dichotomy of the 'verbal' sentence vs. the 'nominal' sentence regarding the expression of the tense. In the following, the sentences in (19) are verbal sentences and the sentences in (20) are corresponding nominal sentences:

(19) a. John-ka ka- nɨn- ta
Nom go Indi Stat
'John goes/is going.'

b. John-ka ka- Ass- ta
Past
'John went/has gone.'

c. John-ka ka- kess- ta
Conject
'John will/would go.'

(20) a. John-ka ka- nɨn- kəs i- ta
go Ajst-M Comp be Stat
'(I guess) John goes/is going.'

b. John-ka ka- ɨn- kəs i- ta
Ajst-M
'(I guess) John went/has gone.'

c. John-ka ka- ɨl- kəs i- ta
Ajst-M
'(I guess) John will/would go.'

Cook's verbal and nominal sentences may be restated as non-embedded and embedded sentences (i.e. KəS-N-Comp), respectively. To me, the sentences in (19) are not necessarily synonymous with the corresponding sentences in (20). My semantic judgement on (19) vs. (20)

is that sentences (19a, b) are not conjectural, whereas the corresponding sentences (20a, b) are conjectural. (19c) is only conjectural for the independent reason that the formative kess itself has the reading of the speaker's conjecture in this sentence. The formative kess has two readings: conjecture and volition. The volitional reading is excluded from (19c), because the subject of the sentence and the speaker are not coreferential. The point is that all types of tense have the two types of expressions, and that these two types of expressions are not fully synonymous.

The formative kess requires further comment. The majority of Korean grammarians have treated kess as marking the future tense. This traditional view seems to be only partially true, for we can discover counterexamples. For example, semantically kess expresses two different things: one is the volition of the speaker and the other is the conjecture of the speaker. Consider the following sentences:

(21) a. na-nɨn cuk- kess- ta
I Z-lim die Stat

1. (Conjecture): 'I'll be killed.' or 'I'm tired.' or 'I'm not happy.' or 'I'm disturbed.'

2. (Volition): 'I will kill myself.'

The sentences above are ambiguous: the ambiguity results from the readings of the formative kess, which has two different readings. Recognizing difficulties in the traditional future tense view of kess, Cook (1968:70-81) proposes to call it a 'mode' category. He combines tense and mode into one higher category 'tense-mode'. For my part, I will not label kess with any definite grammatical category because it contains heterogeneous functions such as the future tense, the present tense, volition, and conjecture. Furthermore, kess may cooccur with the past tense, in which case it functions as a subjunctive mood, a kind of conjecture regarding the past tense. This topic will not be discussed further here.

Speaking of speech levels, only the formal SL has an overt surface form (i.e. sɨp), and yet speech levels are ultimately determined by the total combination of grammatical categories such as SL, Mood, and S-type. For ease of reference, let us make a table which is relevant for the determination of speech levels:

(22) Simplified Table of Speech Level and Relevant Elements

	Formal			Familiar			Intimate(1)			Intimate(2)			Plain/Neut			Autho		
	SL	Md	S-t	SL	Md	S-t	SL	Md	S-t	SL	Md	S-t	SL	Md	S-t	SL	Md	S-t
Stat	sɨp	ni	ta	-	-	ne	-	-	A	-	-	ci	- -	nɨn -	ta ta	-	-	o
Ques	sɨp	ni	kka	-	-	na	-	-	A	-	-	ci	- -	nɨn -	ya ni	-	-	o
Comm	(sɨp)	si	o	-	-	ke	-	-	A	-	-	ci	-	-	Ala	-	-	o
Sugg	sɨp	si	ta	-	-	se	-	-	A	-	-	ci	-	-	ca	-	-	(o)

As we see in the table, the paradigm has many gaps, simply because many grammatical categories in certain combinations have unrealized surface forms. The fundamental reason is not clear. The plain SL is usually equated to the 'neutral' SL. But, strictly speaking, they must be distinguished, since only the neutral SL is used in the modality of a sentential complement. In terms of forms, the only difference between the plain SL and the neutral SL is that *nɨn-ya* is used in the neutral SL in the question sentence, whereas *ni* or *nɨn-ya* is used in the plain SL in the question sentence. This comparison is shown in the table. Another comparison shown in the table is *nɨn-ta* vs. *ta* in the plain SL of the statement sentence. The former is used with the verb, while the latter is used with the adjectival verb. The terms for types of SL are borrowed from Martin-Lee (1969).

The polite SL is not specified in the table on purpose. Martin-Lee (1969:376) derive the intimate SL's by deleting the morpheme *yo* from the polite SL. If we reverse the method, we can say that the polite SL equals the intimate SL plus the morpheme *yo*. Their analysis, however, does not seem to have captured the governing principle. Actually, there are two forms of the polite SL formative: *yo* and *ya*. Let us call them the high form and the low form in usual sociolinguistic terminology. Any speech level can become the polite speech level by being suffixed with the polite SL formative. The two forms of the polite SL formative are subject to cooccurrance restrictions with regard to types of speech level. Since I discuss the phenomenon under consideration elsewhere (cf. Yang, forthcoming d), I will not go into detail here, but will cite some examples: (Dialectal variation is not indicated).

(23) a. John-ka kimchi-lɨl mək- sɨp- ni- ta- {yo, *ya}
Nom Acc eat Fol Indi Stat Pol
'John eats kimchi.' (Formal SL plus high form polite)

b. John-ka kimchi-lɨl mək- ci- {yo, ya}
'John eats kimchi.' (Intimate(2) SL plus either form of polite)

c. John-ka kimchi-lɨl mək- nɨn- ta- { *yo, ya}
'John eats kimchi.' (Plain SL plus low form polite)

Before leaving the modality constituent, one more thing must be mentioned. Korean has the phenomenon of 'double modality'. By double modality, I mean that on the surface a seemingly simplex sentence has two whole modality constituents. Schematically, the phenomenon of double modality looks like the following:

(24) C_1^n - V - $[$Tns - SL - Md - S-type$]_M$ -$[$Tns - SL -Md - S-type$]_M$
(Inner Modality) (Outer Modality)

Since I have discussed the phenomenon of double modality elsewhere (cf. Yang, 1971b), I will not repeat the discussion here. The point is that the outer modality is the preserved modality of the superordinate sentence. Here are some examples:

(25) a. [John-ka kimchi-lɨl mək-nɨn-ta] -sɨp-ni-ta
Nom Acc eat Indi Stat Fol Indi Stat
(Inner M) (Outer M)
'(I tell you that) John eats kimchi.' (Formal SL)

b. [John-ka kimchi-lɨl mək-Ass-ta] -nɨn-ta
Past Stat Indi Stat
(Inner M) (Outer M)
'(I tell you that) John ate kimchi.' (Plain SL)

c. John-ka na-eke [Mary-ka kimchi-lɨl mək-Ass-ta]-A
Nom I Exp Nom Acc eat Past Stat Stat
(Inner M) (Outer M)
'John told me that Mary ate kimchi.' (Intimate(2) SL)

d. [John-ka kimchi-lɨl mək-Ass-ta] -ci?
Past Stat Ques
(Inner M) (Outer M)
'(I ask you) Did John eat kimchi?' (Intimate(1) SL)

e. [ppalli o-Ala] -ass-ta
quickly come Comm Past Stat
(Inner M) (Outer M)
'(I have already told you to) come quickly.' (Plain SL)

f. apəci, [əməni-ka na-eke [cuk-Ala] -nɨn-ta] -
father mother Nom I Exp die Comm Indi Stat
(Inner M) (Middle M)

sɨp-ni-ta
Fol Indi Stat
(Outer M)
'Daddy, (I tell you that) Mommy tells me to kill myself.'
(Formal SL)

g. apəci, [əməni-ka na-eke cuk-Ala] -sɨp-ni-ta
father mother Nom I Exp die Comm Fol Indi Stat
(Inner M) (Outer M)
'Daddy, (I tell you that) Mommy tells me to kill myself.'

I (Yang, 1971b) claimed that the outer modality is the preserved modality of the performative sentence (cf. Ross, 1970). However, this claim is too strong. (25c) shows that the superordinate sentence involved is not necessarily the performative sentence. Furthermore, the tense of the outer modality is not necessarily the present tense (cf. 25e). The third revision of my earlier view is that modality is not only 'doubled' but also 'tripled' although tripled modality is extremely restricted in occurrence. This fact is examplified by (25f). (25f) is reduceable to (25g) where the middle modality is deleted.

Footnotes to Chapter 1

[1] I have not attempted to draw any conclusions from this close parallelism for the possible genetic relationship between Korean and Japanese. For studies relevant to this problem, see Martin (1966) and R. Miller (1971).

[2] For the discussion of the ordering of constituents in the underlying structure, see Chomsky (1965:123-127), Fillmore (1968a: 24, 1971), Sanders (1970), and Peterson (1971).

[3] For the interpretive semantic view on this issue, see Chomsky (1969, 1970a, b), Jackendoff (1969a, 1970, 1971), Dougherty (1970), Bowers (1970), and Partee (1970b). For the generative semantic view on this issue, see Carden (1970), and Lakoff (1970a, d, e, 1971b). For a third alternative view, see Montague (1972), and Partee (1972).

[4] For a localistic theory of case, see J. Anderson (1971).

[5] The comitative case is problematic. For the explanation of the relation between a sentence with a comitative case and a sentence with NP conjunction, several proposals have been made. For example, Lakoff-Peters (1966) propose to derive the comitative markers from phrasal conjunction by Conjunct Movement. For phrasal conjunction, they postulate $NP \rightarrow and\ (NP)^n$, where $n \geq 2$. On the other hand, Fillmore (1968a:81-83) proposes to derive NP conjunction (i.e. phrasal conjunction) from the comitative case by Comitative Promotion. For the comitative case, he postulates $NP \rightarrow NP - CO$. J. Miller (1971) argues that in Russian two types of co-ordination must be recognized: an 'and' type and a 'with' type, rather than deriving one from the other.

[6] Korean has the following phoneme inventory:

	labial	dental	palatal	velar
simple stop	p	t		k
aspirate stop	ph	th		kh
tense stop	pp	tt		kk
simple affricate			c	
aspirate affricate			ch	
tense affricate			cc	
simple fricative		s		
tense fricative		ss		
nasal	m	n		ng (=ŋ)
lateral		l		
glide	w		y	

i ɨ u
e ə o
æ a

In this study, vowels e and æ are represented as e for ease of typing. In fact, my speech does not distinguish them except for a limited number of words. For a discussion of the Korean vowel system, see C-W. Kim (1968).

The past tense morpheme Ass becomes ass in the environment of a or o C_0^2 ___, and əss elsewhere. This is one example of vowel harmony in Korean. Vowel harmony is most characteristically realized in onomatopoetic expressions which are formed by reduplication. There are two types of reduplication in Korean: one is exact reduplication and the other is exact reduplication with the initial consonant deleted. Here are some examples:

(1) Symmetrical Reduplication
acang-acang (a type of walking style), sallang-sallang (a type of wind-blowing), mencil-mencil (smoothness), kkupul-kkupul (crookedness), ppangkɨs-ppangkɨs (a type of smile), ...

(2) Asymmetrical Reduplication
oson-toson (state of friendly conversation), otong-photong (attractive plumpness of girls), ulkɨs-pulkɨs (colorful state), aki-caki (hidden pleasure), alssong-talssong (ambiguous state), ...

[7] Vendler (1967:136) says that true fact is a redundant collocation, and false fact is a contradictory collocation. Vendler's claim is that if a statement is a fact, the statement is necessarily true, and the statement cannot be falsified. Vendler's observation supports Kiparsky-Kiparsky's argument that the speaker's presupposition of factivity cannot be denied by the same speaker, whereas non-factivity can be denied by the same speaker. For some observations on factivity and activity, see footnote 6 in Chapter 3.

[8] For further development of Austin's ideas, see Searle (1969). For criticism of the performative analysis in English, see Fraser (1971b) and S. Anderson (1971).

Chapter 2

Case Markers and Delimiters

2.1. Case Marking

In this section, I will introduce case marking transformations. Case marking is a process whereby Cases are realized on the surface. One and the same (deep) Case is realized in one of two ways: either as a surface subject or as a surface non-subject. The surface case marker symbol K is introduced in the constituent structure. This K is to be replaced by an appropriate case marker label (e.g. Nom, Acc, Inst, etc.) by transformation. The case marker label in turn is replaced with a lexical item (i.e. a case marker) through lexical insertion in a second lexical pass.

This study postulates two types of case marking; one is normal case marking (for short, NCM) and the other is special case marking (for short, SCM). All NCM's are obligatory. Some SCM's are obligatory, while some others are optional. As Fillmore (1970b) proposes, case marking is cyclical. In this study, case marking applies after all the ordered cyclical rules in each cycle. Put differently, case marking is the 'bottom' rule of the cyclical rules. In this section, I will treat only NCM's. SCM's will be formulated later (cf. 3.3., 3.4., 3.5. and 3.6.).

I propose the following normal case marking transformations:

(1) Normal Case Marking (obl)

a. Subject Marking

$$\begin{array}{llll} \text{SD:} & [\text{NP} - \text{K}]_{\text{C}} & & - \text{X} \\ & \ 1 \qquad\ 2 & & \quad 3 \\ \text{SC:} & 1,\ 2,\ 3 & \Longrightarrow & 1,\ \text{Nom},\ 3 \end{array}$$

b. Non-Subject Marking

$$\begin{array}{llll} \text{SD:} & \text{X} + [\text{NP} - \text{K}]_{\begin{bmatrix}\text{A}\\ \text{E}\\ \text{I}\\ \text{O}\\ \text{SO}\\ \text{G}\\ \text{L}\\ \text{T}\\ \text{CO}\end{bmatrix}} & & - \text{Y} \\ & 1 \qquad\qquad 2 & & \quad 3 \\ \text{SC:} & 1,\ 2,\ 3 & \Longrightarrow & 1,\ \begin{bmatrix}\text{Agt}\\ \text{Exp}\\ \text{Inst}\\ \text{Acc}\\ \text{Source}\\ \text{Goal}\\ \text{Loc}\\ \text{Tim}\\ \text{Com}\end{bmatrix},\ 3 \end{array}$$

NCM-a says that any Case must be assigned the Nominative marker if it is the surface subject, and that the left-most Case which is given by the subject choice hierarchy is the surface subject. NCM-b says that the non-subject Cases specified in the structural description must be assigned labels of the case markers specified in the structural change, respectively. Labels of Cases must not be confused with labels of case markers. For example, if Agent Case functions as the subject, NCM-a realizes Agent Case as Nom. If Agent Case does not function as the surface subject (e.g. in a passive sentence), NCM-b realizes Agent Case as Agt.

When K is replaced by the label of a case marker, a case marker as a lexical item must be inserted through a second lexical pass. The lexicon specifies the lexical items for case markers as follows:

(2) Tentative Lexicon for Case Markers

ka	lɨl	lo	e	tongan	ɨi
[+Nom]	[+Acc]	[+Inst]	[+Tim(1)]	[+Tim(2)]	[+Gen]

eke-(e)	hanthe-(e)	e
$\begin{bmatrix}\text{+Agt}\\ \text{- [-Hum] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Agt}\\ \text{- [-Anim] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Agt}\\ \text{- [+Anim] \_\_\_}\end{bmatrix}$
eke-(e)	hanthe-(e)	e
$\begin{bmatrix}\text{+Exp}\\ \text{- [-Hum] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Exp}\\ \text{- [-Anim] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Exp}\\ \text{- [+Anim] \_\_\_}\end{bmatrix}$
eke -esə	hanthe-esə	esə
$\begin{bmatrix}\text{+Source}\\ \text{- [-Hum] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Source}\\ \text{- [-Anim] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Source}\\ \text{- [+Anim] \_\_\_}\end{bmatrix}$
eke-(e)	hanthe-(e)	e
$\begin{bmatrix}\text{+Goal(1)}\\ \text{- [-Hum] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Goal(1)}\\ \text{- [-Anim] \_\_\_}\end{bmatrix}$	$\begin{bmatrix}\text{+Goal(1)}\\ \text{- [+Anim] \_\_\_}\end{bmatrix}$

eke-(lo)

$$\begin{bmatrix} +\text{Goal}(2) \\ -\ [-\text{Hum}]\ \_\_ \end{bmatrix}$$

hanthe-(lo)

$$\begin{bmatrix} +\text{Goal}(2) \\ -\ [-\text{Anim}]\ \_\_ \end{bmatrix}$$

lo

$$\begin{bmatrix} +\text{Goal}(2) \\ -\ [+\text{Anim}]\ \_\_ \end{bmatrix}$$

eke-(e)

$$\begin{bmatrix} +\text{Loc}(1) \\ -\ [-\text{Hum}]\ \_\_ \end{bmatrix}$$

hanthe-(e)

$$\begin{bmatrix} +\text{Loc}(1) \\ -\ [-\text{Anim}]\ \_\_ \end{bmatrix}$$

e

$$\begin{bmatrix} +\text{Loc}(1) \\ -\ [+\text{Anim}]\ \_\_ \end{bmatrix}$$

ese

$$\begin{bmatrix} +\text{Loc}(2) \\ -\ [+\text{Anim}]\ \_\_ \end{bmatrix}$$

wa/hako

[+Com]

One of the formal characteristics of case markers in Korean is that many of these lexical items are homonymous with one another. Such homonymous lexical items, however, differ in their grammatical behavior, i.e., in their interaction with delimiters (cf. 2.4.). This study does not specify morphophonomic rules. Informally speaking, ka, lɨl, lo become i, ɨl, ɨlo respectively after a consonant. This is roughly a phenomenon of 'CVCV-ization'. Note that lo does not become ɨlo after /l/. Another deviation from the general pattern is wa, which occurs after a vowel, and becomes kwa after a consonant. Note that the Nominative marker has two variants: ka after a vowel and i after a consonant. They are phonologically conditioned, but they behave differently in the environment of a small number of delimiters if the noun is a personal pronoun (cf. 2.4.). For ease of reference, let us call them ka-Nom and i-Nom, respectively. The Comitative markers wa and hako occur in free variation. hako occurs after a vowel as well as after a consonant. The Goal marker has two variants:

e and *lo*. Many verbs can co-occur with either *e* or *lo*; to that extent, the two forms are in free variation. But that is not true in all cases. If the predication of a sentence explicitly expresses directionality (i.e. sense of 'toward/result'), *lo* is used; e.g., *hən-cip-lɨl* *se-cip-lo* *kochi* 'to make a new house out of an old house', *olɨnccok-lo* *tol* 'to turn to the right', etc. For ease of reference, we will call the two variants of the Goal marker *e*-Goal and *lo*-Goal.[1] Still another case marker which has two variants is the Location marker. They are *e* and *esə*. In many instances, they seem to occur in free variation. But this does not hold true for all verbs. The two variants depend upon the verb. Verbs such as *iss* 'exist, stay', *tu* 'keep', *anc* 'sit', *nam* 'remain, stay', etc. require the Location marker *e*. Verbs such as *ca* 'sleep', *kongpu-ha* 'study', *il-ha* 'work', *cuk* 'die', *po* 'look', *manna* 'meet', etc. require the Location marker *esə*. We will call the two Location markers *e*-Loc and *esə*-Loc, respectively. The Time marker has two forms: *e* is used for a point in time whereas *tongan* is used for a duration of time. In this study, if the variants of a case marker behave the same, we do not specify the variants.

What attracts our special attention in the above tentative lexicon of case markers are the forms *eke* and *hanthe*, which are generally regarded as case markers. However, I wish to question the status of *eke* and *hanthe*. It is my view that they are not genuine case markers. The lexicon in the above includes selectional restrictions with regard to animateness and humanness. *eke* is prefixed to Agent, Experiencer, Goal, Source, and Location markers if and only if the NP is human. Similarly, *hanthe* is prefixed to Agent, Experiencer, Goal, Source, and Location markers if and only if the NP is animate.[2] Since a human NP is necessarily an animate NP, *eke* and *hanthe* are in free variation if the NP is human. The point is that *eke* and *hanthe* are fully predictable by the characteristics of the NP and case markers. Thus, it is clear that the above tentative lexicon of case markers has not captured a significant generalization.

In order to capture the significant generalization suggested above, we need to separate *eke* and *hanthe* from genuine case markers, and then postulate insertion rules. Let us formulate *EKE*-Insertion and *HANTHE*-Insertion below:

(3) a. *EKE-Insertion* (opt)

$$\begin{array}{lllll} \text{SD:} & X + [\underset{[+\text{Hum}]}{\text{NP}} & - & \left\{\begin{bmatrix}\text{Agt}\\ \text{Exp}\\ \text{Source}\\ \text{Goal}\\ \text{Loc(1)}\end{bmatrix}\right\}]_{C} & - \ Y \\ & \quad 1 & & \quad 2 & \ 3 \end{array}$$

SC: 1, $\emptyset$, 2, 3 $\Longrightarrow$ 1, *eke*, 2, 3

b. *HANTHE-Insertion* (obl)

$$\begin{array}{lllll} \text{SD:} & X + [\underset{[+\text{Anim}]}{\text{NP}} & - & \left\{\begin{bmatrix}\text{Agt}\\ \text{Exp}\\ \text{Source}\\ \text{Goal}\\ \text{Loc(1)}\end{bmatrix}\right\}]_{C} & - \ Y \\ & \quad 1 & & \quad 2 & \ 3 \end{array}$$

SC: 1, $\emptyset$, 2, 3 $\Longrightarrow$ 1, *hanthe*, 2, 3

Once we have posited EKE-Insertion and HANTHE-Insertion, we can exclude these forms from the relevant lexical items in the lexicon of case markers. Now we are ready to specify the proper lexicon for case markers:

(4) Lexicon of Case Markers

ka	lɨl	lo	e	tongan	ɨi
[+Nom]	[+Acc]	[+Inst]	[+Tim(1)]	[+Tim(2)]	[+Gen]
e	e	ese	e	lo	
[+Agt]	[+Exp]	[+Source]	[+Goal(1)]	[+Goal(2)]	
e	ese	wa/hako			
[+Loc(1)]	[+Loc(2)]	[+Com]			

This lexicon of case markers is not sufficient for the full surface case marker forms. The full case marker forms are obtained only when we apply EKE-Insertion and HANTHE-Insertion.

Note that the form e which co-occurs with eke and hanthe appears on the surface only when we exaggerate the pronunciation. On the surface, the normal pronunciation follows the contracted forms such as eke-e → eke, hanthe-e → hanthe. Contraction also occurs with ese e.g., eke-ese → ekese, hanthe-ese → hanthese. These contractions are not peculiar to case markers. Korean has a general phonological rule, what I call 'tauto-segment simplification', by which I mean that when the same segments occur adjacently across a morpheme boundary, one of them is deleted.

Once we have captured the governing principle, we may use the contracted forms for ease of subsequent discussions. I will assign informal labels to some case markers on the assumption that EKE-Insertion and HANTHE-Insertion have already been applied.

(5) Informal Case Marker Labels

Full Form	Contracted Form	Label
eke-e	eke	human Agent marker
hanthe-e	hanthe	animate Agent marker
eke-e	eke	human Experiencer marker
hanthe-e	hanthe	animate Experiencer marker
eke-esə	ekesə	human Source marker
hanthe-esə	hanthesə	animate Source marker
eke-e	eke	human Goal marker
hanthe-e	hanthe	animate Goal marker
eke-e	eke	human Location marker
hanthe-e	hanthe	animate Location marker

Hereafter we will use the informal contracted forms of case markers.

Before leaving this section, I will note some differences between Korean case markers and English prepositions with respect to time and location cases. In English, time and location cases (like other cases) are realized as the corresponding prepositions and their nouns; whereas, in Korean, the realization of time and location cases requires extra nouns in certain instances. This difference can be shown in the translation of English into Korean.

When we translate the English time prepositions *in*, *on* and *at*, the extra nouns (called noun auxiliaries by Starosta, 1967) are not required in Korean. These prepositions correspond to the Korean time marker *e*. However, when we translate time prepositions other than *in*, *on* and *at*, the extra nouns which correspond to the English prepositions are obligatorily required. This difference is shown in the following examples:

(6) *Translation of English Time Prepositions: in, on, at*

a. John arrived *at* three o'clock.

b. John-ka se si-*e* tochakha-Ass-Ta
Nom three o'clock Tim(1) arrive Past Stat

Translation of English Time Prepositions other than in, on, at

c. John arrived *before* three o'clock.

d. John-ka se si-*cən*-*e* tochakha-Ass-ta
Nom three o'clock before Tim(1) arrive Past Stat

When we translate the English location prepositions *in*, *on* and *at*, the extra nouns which correspond to these prepositions may or may not be required. However, when we translate location prepositions other than *in*, *on* and *at*, the extra nouns which correspond to the English prepositions are obligatorily required. This difference is shown in the following examples:

(7) *Translation of English Location Prepositions: in, on, at*

a. John sat *on* the desk.

b. John-ka cheksang (*wi*)-*e* anc-Ass-ta
Nom desk on Loc(1) sit Past Stat

Translation of English Location Prepositions other than *in, on, at*

c. John sat *under* the desk.

d.	John-ka	cheksang	*ale*-*e*	anc-Ass-ta
	Nom	desk	under Loc(1)	sit Past Stat

These examples show that the semantic information which *in*, *on* and *at* contain in English is not clearly reflected in the system of Korean (and Japanese) case marking. The semantic difference of the location prepositions *in*, *on* and *at* is already expressed by verbs to some extent. If ambiguity arises, Korean requires the extra nouns which correspond to these prepositions; otherwise, the extra nouns are not required on the surface. In the case of the time prepositions *in*, *on* and *at*, the semantic difference of them is already differentiated by the time nouns. It seems that this is the reason why the extra nouns are not required in Korean. The dichotomy of time and location markers corresponding to the English prepositions *in*, *on*, and *at* as opposed to the rest is very widespread, if not universal.

2.2. Macro-Micro Relation

Korean (and Japanese) has a phenomenon of multiplication of case markers. By multiplication, I mean the phenomenon where more than one NP has the same case marker even in a simplex sentence. This phenomenon results from different sources. The macro-micro relation is one of the generative sources. This relation is based on a semantic concept of non-symmetrical inclusion, and it is realized as multiplication of the same case marker on the surface. For an explanation of multiplication of case markers, the genitive view has been proposed. This study, however, refutes this view, simply because it cannot explain all types of macro-micro relation. This study proposes a macro-micro analysis for the phenomenon. For other generative sources of the multiplication of case markers, see 3.3. and 3.4.

The phenomenon of the multiplication of case markers has been called 'double-subject' or 'triple-subject'.[3] Such terms, however, are misnomers, simply because any case marker, not only Nom, may be multiplied in a simplex sentence. The macro-micro relation[4] refers to a relation where an NP is conceptually divided into the whole NP itself and a subpart of it. The NP which corresponds to the former is referred to as a macro-NP, while that corresponding to the latter is referred to as a micro-NP. The micro-NP can again branch into a macro-NP and a micro-NP recursively. The macro-micro relation is subcategorized into several types according to their semantic content:

(1)

Types of Macro-Micro Relation	Feature
1. whole/part	[-Micro] / [+Micro]
2. class/member	
3. type/token	
4. total/quant	
5. affected/affector	

In order to associate the types of the macro-micro relation with real examples, let us cite the following sentences, where the macro-micro relation is demonstrated only with the Nominative marker (i.e. the subject). Examples with case markers other than the Nominative marker will be introduced later. I do not provide idiomatic translations for some examples throughout this section, simply because I cannot find any satisfactory English translations.

(2) whole/part

a. John-ka məli-ka aphɨ-ta
Nom head Nom sick Stat
'John has a headache.'

b. cə mucike-ka sek-ka kow-ta
that rainbow Nom color Nom pretty Stat
'That rainbow's color is pretty.'

c. khokkili-ka kho-ka kil-ta
elephant Nom nose Nom long Stat
'The elephant's nose is long.'

d. i sike-ka cul-ka məs-iss-ta
this watch Nom band Nom fashion exist Stat
'The band of this watch is fashionable.'

(3) class/member

a. TV-ka Zenith-ka tɨntɨn-ha-ta
Nom Nom strong Stat
(Lit.) 'The TV, Zenith is durable.'

b. sike-ka Elgin-ka pissa-ta
watch Nom Nom expensive Stat
(Lit.) 'The watch, Elgin is expensive.'

c. nole-ka Arirang-ka coh-ta
song Nom Nom good Stat
(Lit.) 'The song, Arirang is good.'

d. pihengki-ka 747-ka knɨ-ta
airplane Nom Nom big Stat
(Lit.) 'The airplane, 747 is big.'

(4) type/token[5]

a. he-ka ttɨ-nɨn-he-ka məs-iss-ta
sun Nom rising-sun Nom fashion exist Stat
(Lit.) 'The sun, a rising sun is beautiful.'

b. ke-ka cic-nɨn-ke-ka ani musəw-ta
dog Nom barking-dog Nom not frightening Stat
(Lit.) 'The dog, a barking dog is not frightening.'

c. kochu-ka cak-ɨn-kɨs-ka mew-ta
pepper Nom small-one Nom hot Stat
(Lit.) 'The pepper, a small one is hot.'

d. salang-ka ccak-salang-ka sɨlphɨ-ta
love Nom one-sided love Nom heart-aching Stat
(Lit.) 'Love, one-sided love is heart-aching.'

(5) total/quant

a. ttang-ka pek-phyəng-ka phal-li-Ass-ta
lang Nom 100-acre Nom sell Pass Past Stat
'100 acres of land was sold.'

b. ton-ka il-pul-ka na-eke philyo-ha-ta
money Nom one dollar Nom I Exp necessary Stat
'I need money, one dollar.'

c. mal-ka tu-mali-ka talli-nɨn-ta
horse Nom two head Nom run Indi Stat
'Two head of horses are running.'

d. yənphil-ka han-tasɨ-ka pəli-Ass-ta
pencil Nom one dozen Nom ruin Past Stat
'One dozen of pencils are ruined.'

(6) affected/affector

a. na-ka apəci-ka aphɨ-sɨp-ni-ta
I Nom father Nom sick Fol Indi Stat
'Father is sick, (which affects me).'

b. ?* na-ka apəci-ka tol-lɨl kke-Ass-sɨp-ni-ta
I Nom father Nom rock Acc break Past Fol Indi Stat
'Father broke rocks, (which affects me).'

c. John-ka ttal-ka kyəlhon-ha-sɨp-ni-ta
Nom daughter Nom marriage do Fol Indi Stat
'John's daughter will get married, (which affects John).'

d. i class-ka sənsengnim-ka kyəlkɨn-ha-Ass-sɨp-ni-ta
this Nom teacher Nom absent Past Fol Indi Stat
'The teacher in charge of this class is absent, (which affects this class).'

The affected/affector macro-micro relation needs some additional comment. This type may be referred to also as the 'solidarity' relation, where the content of the micro-NP and its predication directly affects (whether favorably or adversely) the macro-NP. This is one of the two characteristics of the solidarity relation. The other characteristic is that the macro-NP and the micro-NP must constitute some sort of natural pairing; e.g., kinship, teacher:student, society: individual, etc. For example, in (6a), the fact that father is sick directly affects me, and _father_ and _I_ constitute a solidarity relation. In (6c), the daughter's marriage directly affects father, and _daughter_ and _father_ constitute a solidarity relation. In (6d), the absence of the teacher directly affects the students, and _teacher_ and _students_ constitute a solidarity relation. What is interesting is (6b). One of the requirements, that is, the requirement that the macro-NP and the micro-NP must constitute a natural solidarity relation is satisfied in (6b). But the other requirement is not met; the fact that father broke rocks has nothing to do with me in any normal situation. However, consider a situation where the father is a mason and the whole family relies on the father's small income. In this situation, (6b) is fully significant and acceptible, since whether father works or not is a matter of life and death for the whole family. The point is that the affected/affector relation must meet at least the two requirements.

Our concern now is how to account for the phenomenon of multiplication of case markers. One possible generative source for the phenomenon may be the genitive view (cf. Song, 1967:46, Kuno, 1970:§2:10). If we adopt the genitive view, we must postulate the following rule in order to assign the same case marker for both NP's, which are connected by the genitive marker ɨi (cf. Japanese no):

(7) Equi-Case Marker Assignment (opt)

SD:	X -	[[NP -	Gen] -	NP -	K] -	Y
	1	2	3	4	5	6

SC: 1, [2, 3, 4, 5] , 6 → 1, [2, 5] , [4, 5] , 6

Let us now test whether the genitive analysis can account for the multiplication of case markers in the macro-micro relation. The following sentences are examples of the whole/part macro-micro relation:

(8) whole/part

a.	John-ɨi	məli-ka	aphɨ-ta	(Basic)
	Gen	head Nom	sick Stat	

'John has a headache.'

b.	John-ka	məli-ka	aphɨ-ta	(Derived by 7)
	Nom	Nom		

'John has a headache.'

(8a) and (8b) are synonymous. Rule (7) which is necessary for the genitive view can account for the two Nominative markers for the two NP's. The genitive analysis, however, cannot account for the multiplication of case markers in the macro-micro relations other than the whole/part relation. Consider the following sentences:

(9) class/member

a.	* TV-ɨi	Zenith-ka	tɨntɨn-ha-ta	(Basic)
	Gen	Nom	strong Stat	

b.	TV-ka	Zenith-ka	tɨntɨn-ha-ta
	Nom	Nom	strong Stat

(Lit.) 'The TV, Zenith is durable.'

(10) type/token

a. * he-ɨi tt-nɨn-he-ka mɵs-iss-ta (Basic)
sun Gen rising-sun Nom fashion-exist Stat

b. he-ka ttɨ-nɨn-he-ka mɵs-iss-ta
Nom Nom
(Lit.) 'The sun, a rising sun is beautiful.'

(11) total/quant

a. * ton-ɨi il-pul-ka na-eke philyo-ha-ta (Basic)
money Gen one-dollar Nom I Exp necessary Stat

b. ton-ka il-pul-ka na-eke philyo-ha-ta
Nom Nom
'I need money, one dollar.'

The ungrammaticality of (9a), (10a), and (11a) which contain the Genitive marker (ɨi) for the macro-NP clearly shows that the genitive analysis cannot account for the data under discussion and cannot be the generative source for the multiplication of case markers. Let us take one more example with the affected/affector relation. To put the conclusion first, the genitive analysis cannot account for the affected/affector relation:

(12) affected/affector

a. Harry-ka John-ɨi wife-lɨl kkucic-Ass-ta (Basic)
Nom Gen Acc scold Past Stat
'Harry scolded John's wife.'

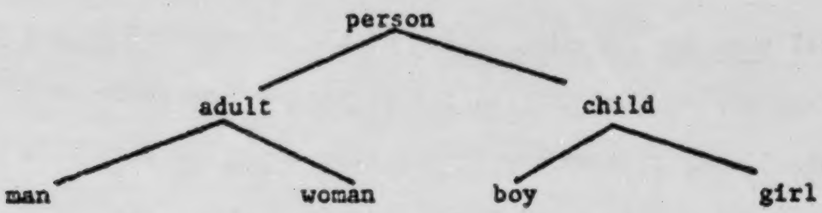
b. Harry-ka John-lɨl wife-lɨl kkucic-Ass-ta
Acc Acc
'Harry scolded John by scolding his wife.'

For the 'double-object' construction (12b), Rule (7), which is required for the genitive view, can assign the Accusative marker for the macro-NP John. However, the English translations clearly show that (12a) and (12b) are semantically rather different from each other.

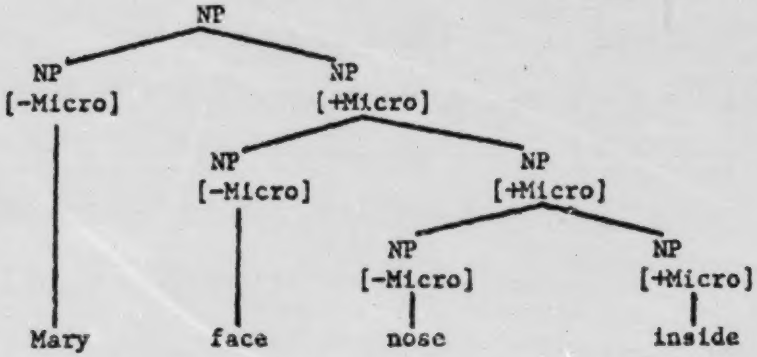
Thus, a genitive construction cannot be the generative source for the multiplication of case markers of the macro-micro relation in any natural way.

Since the genitive analysis cannot account for the multiplication of case markers for the macro-micro relation, we must seek an alternative explanation. This study proposes a macro-micro analysis. The macro-micro relation is based on a semantic concept of non-symmetrical inclusion. Non-symmetrical inclusion must be distinguished from symmetrical inclusion. Symmetrical inclusion (cf. Tyler, 1969:26) and non-symmetrical inclusion are illustrated in the following diagrams:

(13) a. Symmetrical Inclusion


person
adult
child
man
woman
boy
girl

b. Non-Symmetrical Inclusion (= Macro-Micro Relation)


NP
NP
[-Micro]
NP
[+Micro]
NP
[-Micro]
NP
[+Micro]
NP
[-Micro]
NP
[+Micro]
Mary
face
nose
inside

The relation of the first two NP's in the examples (2-6) does not match with the symmetrical inclusion, but with the non-symmetrical inclusion. This fact shows that the data under discussion must be explained by the non-symmetrical inclusion (i.e. macro-micro relation). PS (4) is postulated to generate structures of the macro-micro relation.

Now we must raise a question as to why there exists a macro-micro relation in Korean (and in Japanese). It seems to me that the macro-micro relation is the realization of one type of speech act, which we might call 'specification' (i.e. narrowing) of an NP. In one type of speech act, the Koreans (and Japanese) may specify an NP according to the pattern of the macro-micro relation. Let us take the whole/part relation for example. Think of the relation of *Mary* : *face* : *nose*. When the speaker chooses the NP *Mary* and he wants to further narrow his focus, then he may potentially associate many NP's which are included under the NP *Mary*; that is, *Mary* : *face*, *hand*, *leg*, *stomach*, etc. The speaker may choose one or more than one from among the items *face*, *leg*, *head*, *hand*, etc. If he chooses more than one, then he employs conjunction. Let us ignore conjunction here. Suppose that the speaker chooses *face*. So far, the speaker chose *Mary* : *face*. What is important is that the speaker regards *Mary* and *face* as the macro-NP and the micro-NP respectively. At this point of specification, he may stop specifying or may continue the process. If we wants to continue the process, he may potentially associate many NP's which are included under the NP *face*; that is, *face* : *eye*, *nose*, *mouth*, etc. Suppose that the speaker chooses *nose* out of them. Then he regards *face* and *nose* as the macro-NP and the micro-NP respectively. The relation of *Mary* and *face* is identical to that of *face* and *nose*. The point is that the macro-micro relation is a semantic relation of non-symmetrical inclusion, realized in the speech act of specification of an NP.

The same thing can be said for other types of the macro-micro relation. Let us take the class/member macro-micro relation. Think of the relation of *song* : *Arirang* : *Cinto-Arirang*. (Arirang is the most famous folk-song in Korea.) Arirang has some varieties, whose names are given by the area where the varieties were originated. When the speaker chooses the NP *song* and he wants to further specify *song*, he may potentially associate many NP's which are included under *song*; that is, *song* : *Arirang*, *Ekuk-ka* 'national anthem', etc. When he chooses *Arirang* out of them, he regards *song* and *Arirang* as the macro-NP and the micro-NP respectively. If the speaker wants to further specify the micro-NP *Arirang*, then he may potentially associate many NP's which are included under *Arirang*; that is, *Arirang* : *Cinto-Arirang*, *Milyang-Arirang*, etc. If the speaker chooses *Cinto-Arirang*, he regards *Arirang* and *Cinto-Arirang* as the macro-NP and the micro-NP respectively. To repeat the point, the macro-micro relation in Korean (and in Japanese) is not a surface phenomenon, but a deep-seated psycho-linguistic phenomenon. PS (4) is the formal representation of this phenomenon.

One might say that there exists an implicational relation between the macro-NP and the micro-NP. But that is not the case. Let us examine the whole/part macro-micro relation first. This relation is divided into the implicational whole/part relation and the non-implicational whole/part relation. The implicational relation here refers to the relation where the meaning of the micro-NP and its predication implies the meaning of the macro-NP and its predication. Examples are shown in (2a-b). In (2a), *what is sick* is *John's head*. This implies that *John is sick*. The non-implicational relation here refers to the relation where implication does not exist. Examples are shown in (2c-d). In (2c), *what is long* is *the elephant's nose*. This does not imply that *the elephant is long*. The total/quant macro-micro relation is also divided into the implicational relation and the non-implicational relation. Let us take sentence (5a) for example. The micro-NP *pek-phyeng* '100 acres' (Korean *phyeng* is not equivalent to *acre* in the size) is composed of a quantifier and a numerical counter. If the numerical counter is unique in its reference, then the total/quant relation is the implicational relation. For example, *acre* refers only to *land*. On the other hand, if the numerical counter is not unique in its reference, then the total/quant relation is not implicational. For example, *head* may refer to *cow*, *rooster*, *pig*, *dog*, *tiger*, etc. The rest of the types of the macro-micro relation are all the non-implicational relation. Thus it is clear that the implicational relation is not a coherent semantic relation which can cover all the types of macro-micro relation.

I already indicated that the macro-micro relation is not confined only to the Nominative marker (i.e. the surface subject); this relation also holds true with other case markers. This fact is shown in the following sentences. Sentences (14) are shown with the Accusative marker (i.e. the surface object), and sentences (15) are shown with Experiencer, Instrument, Source, Goal, Location, Time, and Comitative markers:

(14) Accusative Marker

whole/part

a. John-ka cwi-lɨl kkoli-lɨl cap-Ass-ta
Nom rat Acc tail Acc grab Past Stat
'John grabbed a rat by the tail.'

class/member

b. salam-tɨl-ka suca-lɨl chil-lɨl coh-A-ha- nɨn-ta
people Pl Nom number Acc seven Acc like Indi Stat
'People like the number seven.'

type/token

c. Mary-ka munce-lɨl əlyəw-ɨn-munce-lɨl cal phu-nɨn-ta
Nom problem Acc difficult ones Acc well solve Indi Stat
'Mary easily solves problems, difficult ones.'

total/quant

d. John-ka sakwa-lɨl tu-sangca-lɨl sa-Ass-ta
Nom apple Acc two box Acc buy Past Stat
'John bought two boxes of apples.'

affected/effector

e. Harry-ka hakseng-lɨl apeci-lɨl kkucic-Ass-ta
Nom student Acc father Acc scold Past Stat
'Harry scolded a student by scolding his father.'

(15) Experiencer Marker (type/token)

a. John-ka ai-eke chakha-ɨn-ai-eke Bible-lɨl
Nom child Exp good boy Exp Acc
kalɨchi-Ass-ta
teach Past Stat
'John taught the Bible to a child, a good child.'

Instrument Marker (whole/part)

b. Mary-ka cha-lo bumper-lo concu-lɨl pat-Ass-ta
Nom car Inst Inst pole Acc hit Past Stat
'Mary hit an electric pole with the car's bumper.'

Source Marker (class/member)

c. i kangaroo-ka ramccok-ese Australia-ese o-Ass-ta
this Nom south Source Source come Past Stat
'This kangaroo came from the south, from Australia.'

Goal Marker (total/quant)

d. saca-ka holang-i-hanthe tu-mali-hanthe ka-Ass-ta
lion Nom tiger Goal two heads Goal go Past Stat
'A lion went to two head of tigers.'

Location Marker (whole/part)

e. Mary-ka cip-ese pang-ese kongpu-ha-Ass-ta
Nom house Loc room Loc study Past Stat
'Mary studied in the house, in the room.'

Time Marker (whole/part)

f. Mary-ka caknyən-e kaɨl-e sicip-ka- Ass-ta
Nom last year Tim fall Tim marry Past Stat
'Mary married last fall.'

Comitative Marker (type/token)

g. Mary-ka əlɨn-hako cəmcan-ha-ɨn əlɨn-hako
Nom adult Com gentle adult Com

suyəng-ha- Ass-ta
swim Past Stat
'Mary swam with an adult, a gentle man.'

I also indicated that the same case marker is not only doubled but also multiplied in a simplex sentence. This fact is shown in the following sentences:

(16) Nominative Marker

a. Mary-ka əlkul-ka kho-ka olɨn-ccok-ka yeppɨ-ta
Nom face Nom nose Nom right-side Nom pretty Stat
'The right-side of the nose of Mary's face is pretty.'

b. ton-ka hyenkɨm-ka man-pul-ka na-eke philyo-ha-ta
money Nom cash $10,000 Nom I Exp necessary Stat
'I need $10,000 in cash.'

Accusative Marker

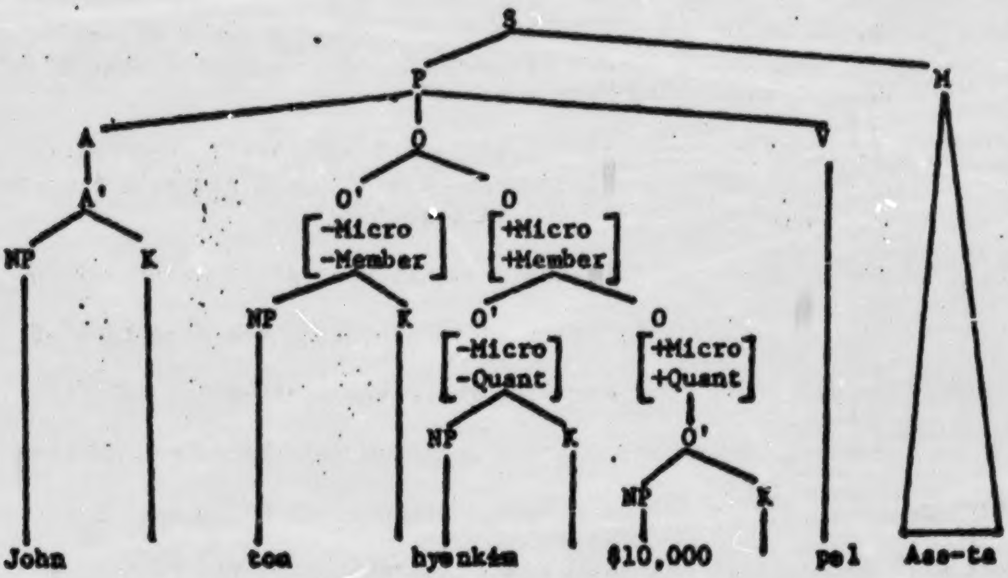
c. John-ka Mary-lɨl elkul-lɨl kho-lɨl manci-Ass-ta
Nom Acc face Acc nose Acc touch Past Stat
'John touched Mary's nose.'

d. John-ka ton-lɨl hyenkɨm-lɨl manpul-lɨl pel-Ass-ta
Nom money Acc cash Acc $10,000 Acc earn Past Stat
'John earned $10,000 in cash.'

It should be noted that the recursiveness of the macro-micro relation is not necessarily confined to repeating the same type of macro-micro relation. For example, the first macro-micro relation may be the class/member macro-micro relation and the second macro-micro relation may be the total/quant macro-micro relation. This fact will be shown in the following illustrations. The secondary features are not formally postulated in PS (4). In the following tree diagrams, the secondary features should be understood as an informal convenience to show that different types are combinable within a series of macro-micro relations in a sentence.

For illustration of the macro-micro relation, let us take sentence (16d).

(17) (underlying)


S
P
M
A
O
V
A'
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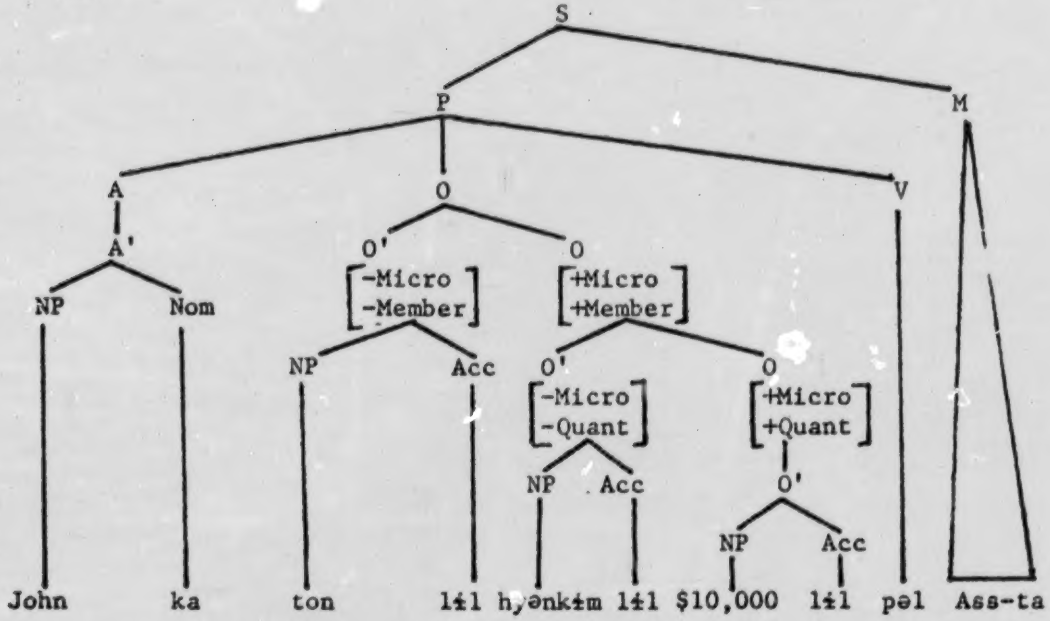
O
[-Micro -Member]
[+Micro +Member]
NP
K
NP
K
O'
O
[-Micro -Quant]
[+Micro +Quant]
NP
K
O'
NP
K
John
ton
hyenkɨm
$10,000
pel
Ass-ta

We will consider only case marking here. NCM-a replaces K under A(gent) by Nom and NCM-b replaces K's under O's(objects) by Acc's. Now we have (18) through the second lexical pass.

(18)


S
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A
O
V
A'
O'
O
NP
Nom
[-Micro -Member]
[+Micro +Member]
NP
Acc
O'
O
[-Micro -Quant]
[+Micro +Quant]
NP
Acc
O'
NP
Acc
John
ka
ton
lɨl
hyənkɨm
lɨl
$10,000
lɨl
pəl
Ass-ta

/// John-ka ton-lɨl hyənkɨm-lɨl man-pul-lɨl pəl-Ass-ta ///

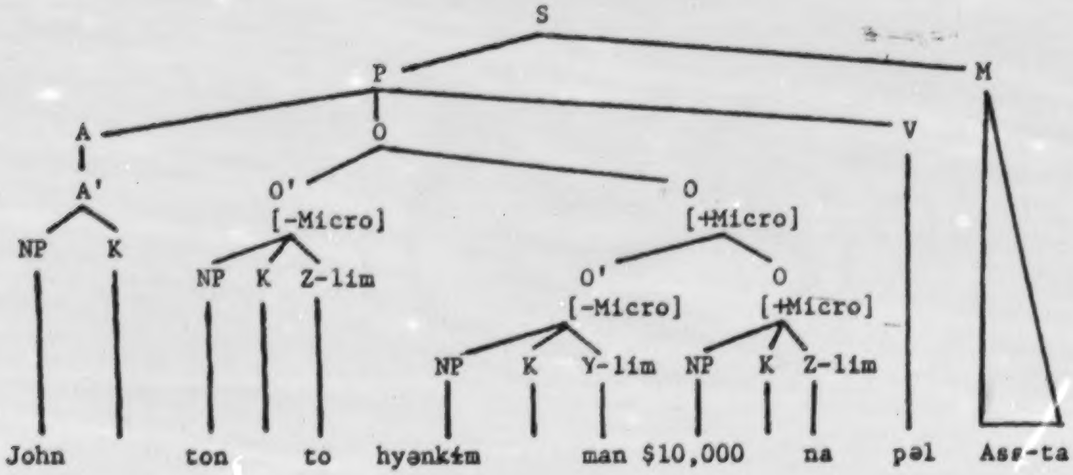
The three slashes mark representations which have not yet undergone the morphophonemic rules.

Let us now take one more example, which includes delimiters:

(19)	John-ka	ton-to	hyənkɨm-man	man-pul-na	pəl-Ass-ta
	Nom	also	only	as much as	

(Lit.) 'John earned money also as much as $10,000 in cash only.'

(20)


S
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A'
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[-Micro]
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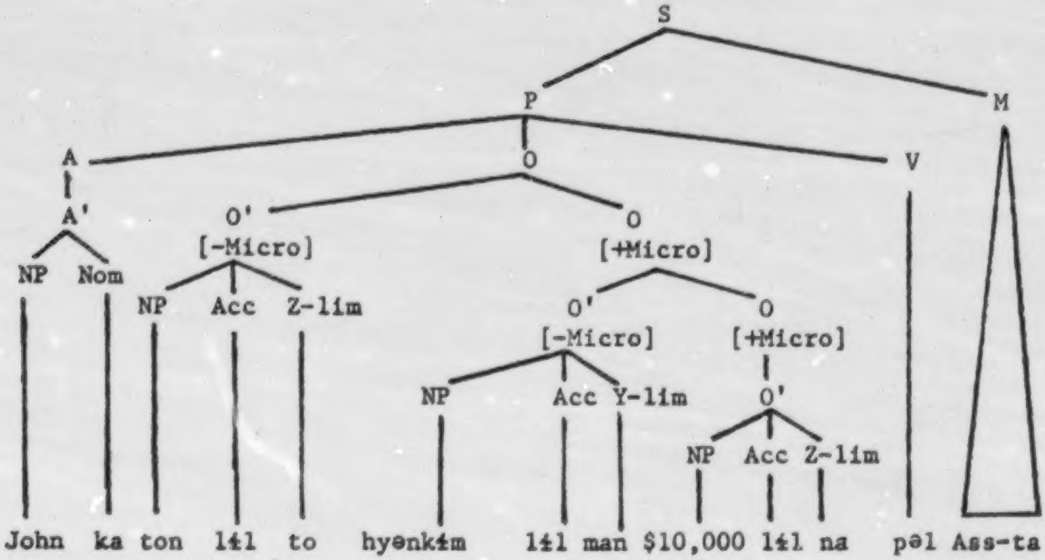
[+Micro]
NP
K
NP
K
Z-lim
O'
[-Micro]
O
[+Micro]
NP
K
Y-lim
NP
K
Z-lim
John
ton
to
hyənkɨm
man
$10,000
na
pəl
Ass-ta

NCM-a and NCM-b yield (21) after the second lexical pass.

(21)


S
P
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V
A'
O'
[-Micro]
O
[+Micro]
NP
Nom
NP
Acc
Z-lim
O'
[-Micro]
O
[+Micro]
NP
Acc
Y-lim
O'
NP
Acc
Z-lim
John
ka
ton
lɨl
to
hyənkɨm
lɨl
man
$10,000
lɨl
na
pəl
Ass-ta

* /// John-ka ton-lɨl-to hyənkɨm-lɨl-man $10,000-lɨl-na pəl-Ass-ta ///

The output (21) is not yet the correct one. As we will see in 2.4., case markers and delimiters interact in two ways. One is the obligatory deletion of the Nominative and Accusative markers before any delimiter, and the other is the permutation of certain case markers and certain delimiters. Since the Accusative marker and the delimiter man 'only' optionally permute, we will have two different outputs (22-3), which are synonymous.

(22) /// John-ka ton-to hyənkɨm-man-lɨl man-pul-na pəl-Ass-ta ///
Z-lim Y-lim Acc Z-lim

(23) /// John-ka ton-to hyənkɨm-man man-pul-na pəl-Ass-ta ///

2.3. Introduction of Delimiters

Delimiters in this study are particles such as: (1) *macə* 'even, indeed, including', *mata* 'each, every', *kkaci* 'even, including', *puthə* 'starting from'; (2) *man* 'only', *pakke* 'nothing but' (a negative polarity item); and (3) *nɨn* 'only concerned', *to* 'also, too, even', *ya* 'at least, of course', *na* 'rather' (which implies a rather forced choice, which is neither the best nor the worst), *lato* 'even as the last recourse' (whether it is good or bad). *ya*, *na*, and *lato* become *iya*, *ina*, and *ilato* after consonants, respectively. In this study, the first group of these particles is referred to as X-delimiters (for short, X-lim), the second group as Y-delimiters (for short, Y-lim), and the third group as Z-delimiters (for short, Z-lim). The term delimiter is a semantic one which implies that the meaning of the element to which a delimiter is attached is 'delimited and/or specified'.[6] It should be noted that it is difficult to give tag translations for delimiters.[7] For ease of reference, the sub-categories of delimiters are shown in the following:

(1) *Sub-categories of Delimiters*

X-lim: macə, mata, kkaci, puthə

Y-lim: man, (pakke)[8]

Z-lim: nɨn, to, ya, na, lato

The particles dealt with in this study are divided into case markers and delimiters for the following reasons:

(1) Case markers are suffixable only to NP's (including the sentential complement), whereas delimiters are suffixable to adverbials

and conjunctors as well as NP's (including the sentential complement).

(2) Delimiters do not mark Case. On the surface, delimiters may look like case markers, but such a seeming similarity results from the interaction of delimiters and case markers (cf. 2.4.).

(3) Delimiters may function to block certain transformations, but case markers do not function in this way. The blockage mechanism of delimiters in certain transformations will be discussed in 3.6. and 4.1. This is related to the fact that delimiters have semantic content.

The sub-categorization of delimiters into X-lim, Y-lim, and Z-lim is based upon their distributional characteristics. On the surface, when an X-lim, a Y-lim and a Z-lim co-occur within the same element (i.e. NP, adverb, or conjunctor), X-lim always precedes Y-lim, and Y-lim always precedes Z-lim. They are in complementary distribution.[9] Furthermore, the three sub-categories differ somewhat in their interaction with case markers (cf. 2.4.).

The immediate concern in this section is how to introduce delimiters into a grammar of Korean (and Japanese). To put the conclusion first, this study introduces delimiters by constituent structure rule rather than by transformation. First of all, I will clarify my position as to how to introduce an element into a grammar. If an element does not contains its own semantic content, or if the element, although it contains its own semantic content, is fully predictable from the already introduced elements, then the element is to be introduced by a transformation; otherwise, it should be introduced in the constituent structure. This assumption is related to another assumption that transformations are allowed to the extent that they do not change meaning.[10] This assumption thus allows two options; one is phrase structure introduction, and the other is transformational introduction. The fact that delimiters carry their own semantic content narrows down the search to whether delimiters are fully predictable from the already introduced elements or not, and it turns out that they are not predictable at least within a simplex sentence. We will examine two cases below. One is to examine whether delimiters are predictable from certain complex sentences. We will take the delimiter man 'only' by way of illustration. The other is to examine whether delimiters are predictable in the strict context of a given discourse. We will take the delimiter to 'also' by way of illustration.

Let us examine the delimiter man 'only'. Dahl (1969:13) and Fraser (1971a:156) observe that the cleft sentence implies the word only. In other words, the cleft element must meet the uniqueness requirement. Suppose we have three boys in the class. Someone asks the question, 'Have you talked to the first boy?' We want to tell him that we have only talked to the second and the third boy. In this situation, sentence (2a) is acceptable, but sentence (2b) is contradictory.

(2) a. No, the second boy I have talked to. I have also talked to the third boy.

b. * No, it is the second boy that I have talked to. I have also talked to the third boy.

The first sentence in (2a) is a topicalized sentence, while the first sentence in (2b) is a cleft sentence. The second sentences in (2a, b) are the same, and both include the word *also*. If the cleft sentence did not imply the word *only*, there would be no reason for the sentence pairs (2b) to be contradictory. This shows that Dahl's and Fraser's observation is correct. Incidentally, it also shows that the topicalized sentence is semantically different from the cleft sentence.

Tempted by the above observation, one might propose to derive the delimiter *man* 'only' from the cleft sentence, rather than postulating it in constituent structure. Incidentally, Korean does not distinguish between a cleft sentence and a pseudo-cleft sentence:

(3) a. John-ka po-ɨn- kəs-nɨn holang-i i-Ass-ta
Nom see Ajst-M Comp Z-lim tiger be Past
'It was a tiger that John saw.' (Cleft sentence)

b. John-ka holang-i-*man* po-Ass-ta
Nom tiger only see Past
'John saw only a tiger.' (Only)

As far as the data under consideration are concerned, we can derive the delimiter *man* 'only' from a cleft sentence. However, if we expand our data where more than one *man* 'only' occur in a simplex sentence, the generative source of the cleft sentence for delimiter *man* 'only' cannot be the explanation. Observe the following sentences:

(4) a. John-*man* holang-i-*man* po-Ass-ta
only tiger only see Past
'Only John saw only a tiger.' (Two *only*'s)

b. [holang-i-*man* po-ɨn]-kəs-nɨn John i-ko
tiger only see Ajst-M Comp Z-lim be and

[John-ka po-ɨn]-kəs-nɨn holang-i i-Ass-ta
Nom see Ajst-M Comp Z-lim tiger be Past
'It was John that saw only a tiger, and it was a tiger that John saw.'

b'. [John-*man* po-ɨn]-kəs-nɨn holang-i i-ko ,
see Ajst-M Comp Z-lim tiger be and

[holang-i po-ɨn]-kəs-nɨn John i-Ass-ta
tiger see Ajst-M Comp Z-lim be Past
'It was a tiger that only John saw, and it was John that saw a tiger.'

When two NP's in a simplex sentence co-occur with the delimiter *man* 'only', there is no way to uniquely express the sentence in terms of the cleft sentence. The possible ways for sentence (4a) to be cleft are sentences (4b, b'). As sentences (4b, b') show, at least one NP must have the delimiter *man* 'only' even within the cleft sentence, which cannot be further cleft. Thus, the proposal to derive delimiter *man* 'only' from an underlying cleft sentence cannot account for all occurrences of *man*.

In the above, we observed that the delimiter *man* 'only' is not fully predictable from a certain complex sentence. Suppose we broaden our scope of data to the discourse level. If we introduce discourse analysis into linguistic description, the predictability of delimiters may increase. Consider the following sentences. Sentence (5a) is the discourse initial sentence, and sentence (5b, c, d, or e) is the immediately following sentence. The symbol '*/d' refers to a sentence which is anomalous in the strict context of a given discourse:

(5) a. Mary-ka onɨl kimchi-lɨl mək-nɨn-ta
Nom today Acc eat Indi Stat
'Mary eats kimchi today.'

b. John-*to* onɨl kimchi-lɨl mək-nɨn-ta
also
'John also eats kimchi today.'

c. */d John-*ka* onɨl kimchi-lɨl mək-nɨn-ta
       Nom
   'John eats kimchi today.'

d. */d John-ka onɨl-*to* kimchi-lɨl mək-nɨn-ta
       also
   'John eats kimchi today also.'

e. */d John-ka onɨl kimchi-*to* mək-nɨn-ta
       also
   'John eats also kimchi today.'

If we disregard the strict discourse context, any sentence in (5) is grammatical and non-anomalous. However, in the strict discourse context, only sentence (5b) is non-anomalous, and all the other non-initial sentences are anomalous. Notice that there is the uniquely different element *Mary* vs. *John* between the initial sentence and each immediately following sentence. A comparison of non-anomalous sentence (5b) and anomalous sentences (5c, d, e) shows that the uniquely different element in the immediately following sentence in the strict discourse context must have the delimiter *to* 'also'; otherwise, the immediately following sentence is anomalous. If the uniquely different element does not contains delimiter *to* 'also' in a strict discourse context, the sentence would not be considered part of the same discourse. Observing these facts, we can informally express the predictability of the delimiter *to* 'also' in the strict discourse context as follows:

(6) Predictability of the Delimiter *to* 'also'

In a strict discourse context, if two successive sentences differ only in one delimiter-attachable element, the non-identical element in the second sentence must have the delimiter *to* 'also'.

The discourse predictability of the delimiter to 'also' observed above, however, does not cover all the possible occurrences of to. In spite of such an interesting phenomenon of strict discourse predictability, the delimiter to 'also' is not necessarily predictable in all occurrences. Suppose sentence (7a) is the discourse initial sentence and the immediately following sentence is one of sentences (7b, c, d). (7a, b), (7a, c) and (7a, d) are discourse pairs. (7a) is the stimulus sentence and (7b, c, or d) is the response sentence.

(7) (John to Mary): a. na-ka tangsin-lɨl salangha-sɨp-ni-ta
I Nom you Acc love Pol Indi Stat
'I love you.'

(Mary to John): b. na-to tangsin-lɨl salangha-sɨp-ni-ta
also
'I also love you.'

(Mary to John): c. na-ya tangsin-lɨl salangha-sɨp-ni-ta
of course
'It is a matter of course that I love you.'

(Mary to John): d. ná-ka tangsin-lɨl salangha-sɨp-ni-ta
Nom
'It is I that love you.'

The discourse pair (7a, b) does not follow the generalization (6), since there is no uniquely different delimiter-attachable element between these two sentences. One might say that this discourse pair follows the generalization (6), since na in (7a) and na in (7b) are referentially different. But tangsin in (7a) and tangsin in (7b) are also referentially different. Therefore, there is no referentially uniquely different element between these two sentences. If (7b) were uttered by Harry to Mary, than na in (7a) which refers to John and na in (7b) which refers to Harry are referentially uniquely different. This supposed case follows the generalization (6).

Returning to the discourse pair (7a, b), it shows that, besides the generalization (6), there is another type of the discourse predictability of the delimiter _to_ 'also'. In this case, the exact same sentence is repeated by the addressee. The response sentence must be formally identical to the stimulus sentence. However, the strict discourse predictability of the delimiter _to_ 'also' in the response sentence (7b) is not guaranteed. A stronger yet natural response to the stimulus sentence (7a) is the response sentence (7c) where the delimiter _ya_ 'of course' occupies the same position as delimiter _to_ 'also' does in (7b). A still stronger yet natural response to the stimulus sentence (7a) is sentence (7d) which has the Nominative marker _ka_. The response sentence (7d) implies that 'you love me, but I love you more than you love me'. These observations suggest that the uniqueness of the discourse predictability of delimiter _to_ 'also', which seems the most favorable example for discourse predictability, does not necessarily hold true. As far as I know, other delimiters are not predictable even in the strict discourse context. Thus, I do not regard delimiters as 'contextual' particles.

Incidentally, I believe that a presuppositional system sheds light on the exploration of the semantic structure of delimiters in Korean and in Japanese. Since I discuss this topic elsewhere (Yang, forthcoming c), I will not go into detail, but cite only one example here. The following sentence may occur as a discourse initial sentence:

(8) a. nalssi-*to* ani coh-kess-ta
weather also not good Conject
'Gee, the weather *also* will not be good.'

b. John-ka ton-*to* əps-ta
Nom money also have-not
'John does not have *even* money.'

Sentence (8a) may occur as soon as the speaker wakes up, opens the window and looks at the sky, only on the presupposition that many things will be unfavorable in doing some intended thing or business. Since this sentence is a discourse initial sentence, discourse analysis alone cannot account for the occurrence of *to* 'also' in this sentence. Discourse analysis does not imply presuppositional analysis. Whether we include presuppositional analysis or not depends upon the individual analyst. Without a presuppositional analysis,[11] the occurrence of delimiter *to* 'also' cannot be explained. Likewise, sentence (8b) may occur as a discourse initial sentence. When the speaker utters this sentence, *he necessarily emphasizes* that *John does not have money*. This emphasis results from the fact that when the speaker utters this sentence, he presupposes that *John* does not have A, B, C, ..., nor *even* money.

To recapitulate, even delimiters which seem to be highly favorable for predictability in certain complex sentences or in a strict discourse context are not fully predictable. This necessarily rules out the option of the transformational introduction of delimiters in a grammar of Korean (and Japanese). The alternative is the constituent structure introduction of delimiters.

At this point in our discussion on delimiters, Kuroda's (1965a, 1969) 'attachment' approach to the treatment of *wa*, (cf. Korean *nɨn*), *mo* (cf. Korean *to*), *demo* (cf. Korean *lato*), etc. in Japanese attracts our attention, since his is the only formalized treatment of what I call delimiters within the framework of generative grammars. Kuroda adopts a 'hyphenated' approach in the sense that delimiters are first introduced in the initial constituent structure rule, and then they are 'attached' to the individual element by 'attachment' transformation. We will below review its validity for the proper treatment of delimiters for a grammar of Korean (and Japanese).

Kuroda (1965a:63, 80, 84) introduces delimiters *wa*, *mo*, *demo*[12] in his grammar in the following manner:

(9) *Kuroda's Rules for WA* (1965:63)

a. Sen → S - *WA*

b. *WA*-Attachment (opt. iterative)

$(X - NP\ Y)_S - \underline{WA}$

$\Longrightarrow (X - NP + \underline{WA} - Y)_S - \underline{WA}$

c. *WA*-Deletion (obl)

$\underline{WA} - X)_S - \underline{WA} \Longrightarrow \underline{WA} - X)_S$

d. *SI*-Insertion (obl)

$V - Aux - \underline{WA} \Longrightarrow V - \underline{WA} - \underline{SI} - Aux$

e. *WA*-phrase Inversion (obl)

$\#\#X - NP - \underline{WA} \Longrightarrow \#\#\ NP - \underline{WA} - X$

He accounts for *mo*, *demo* in the same manner. According to him, (9a) is a phrase structure rule which will generate the basic form of the sentence with *wa*. By *WA*-Attachment (9b), the sentence-final *wa* may be attached to an NP. This rule applies iteratively, so that a sentence may contain more than one *wa*. If *wa* is attached to some constituent(s), the sentence-final *wa* will be obligatorily deleted by *WA*-Deletion (9c). This process is schematically shown as follows:

(10) a. X - NP - V - Aux - *WA* (Basic, by 9a)
b. X - NP + *WA* - V - Aux - *WA* (by 9b)
c. X - NP + *WA* - V - Aux (by 9c)

If *wa* remains in sentence-final position, by *SI*-Insertion it will be incorporated into the verb and the empty verb *si* will be inserted to carry Aux. In other words, the attachment of *wa* to some NP is optional. When it does not apply, the sentence-final *wa* is ultimately attached to V. This process is schematically shown as follows:

(11) a. X - NP - V - Aux - *WA* (Basic)
b. X - NP - V + *WA* - *SI* - Aux (by 9d)

If we follow Kuroda's rules, the sentence-final *wa* which appears in the initial phrase structure rule will ultimately disappear by being attached either to NP by the process (10) or to V by the process (11). There will be no surface sentence which contains the sentence-final *wa*. For example, Kuroda will derive the Japanese sentences (12b, c, d) from the basic representation (12a):

(12) a. John-ga ano hon-o kat-ta *wa* (Basic)
b. John-*wa* ano hon-o kat-ta (9b, c)
that book buy
'As far as John is concerned, he bought a book.'

c. John-ga ano hon-wa kat-ta (by 9b, c)

'As far as that book is concerned, John bought it.'

d. John-ga ano hon-o kai-wa si-ta (9d)

'As far as buying that book is concerned, John did it.'

Note that the sentence-final wa in the basic representation is different from the so-called sentence-final particle wa in Japanese, although Kuroda does not clarify this difference. The so-called sentence-final particle wa may be used in the women's speech. The delimiter wa which is postulated at the end of the basic representation has nothing to do with the so-called sentence-final particle wa. Hereafter, wa refers only to the delimiter wa.

Kuroda's (1965a: Chapters 1 and 2) discussions can be reduced to three points directly relevant to the present discussion. The first is the claim that the delimiter may modify whole sentences as well as constituents. The second is the claim that the sentence-modifying delimiter must be obligatorily attached to NP or to V. The third is the claim that the same delimiter cannot occur more than once in a sentence, once it modifies the whole sentence. The first claim is realized as the postulation of wa in the initial phrase structure rule. The second claim is realized as the delimiter attachment transformation (cf. WA-Attachment). The third claim is realized as the obligatory deletion of the sentence-final wa (cf. WA-Deletion). We will examine these three claims below.

First, Kuroda's claim that the delimiter may modify the whole matrix sentence does not seem to be convincing. As far as I know, delimiters in Korean and in Japanese do not modify the whole matrix sentence, but modify constituents such as NP's (including the sentential complement), adverbs, and conjunctors. Delimiters specify or delimit the element to which they are suffixed. I would claim that the delimiter can specify or delimit a whole sentence only if it functions as a sentential complement. This implies that the verb si (cf. Korean ha) in (12d) must be treated as the matrix verb of the matrix sentence. In the case of English, Fraser (1971a:151, 165) indicates that English words such as only, even, which are similar to Korean and Japanese delimiters, may modify a whole sentence:

(13) a. Harvard will even hold a pep rally. (Sentence Scope)
b. Even John failed the exam. (Subject NP Scope)
c. The boys even destroyed the glass door. (VP Scope)
d. Harry threw even the newspapers. (Object NP Scope)
e. We can even see Long Island. (Object NP Scope)
f. You shouldn't even try the toadstools. (Verb Scope)

However, Korean and Japanese delimiters cannot modify a whole unembedded sentence. ano hon-o kai-wa 'as for buying that book' in (12d) is an embedded part.

Second, Kuroda's claim that the sentence-modifying delimiter must be obligatorily attached to NP or to V presupposes that scopes of modification (e.g. the modification of a whole sentence and the modification of a constituent) contribute to the meaning difference

(1969:339). This point is involved with one of the current issues in linguistic theory, that is, whether transformations are meaning-changing or meaning-preserving (cf. Partee, 1970a). In order to accommodate the second claim, Kuroda states that most transformations preserve meaning, but certain transformations (e.g. WA-Attachment) do not. Chomsky (1969:27) cites Kuroda's attachment transformation for his argument that certain transformations change meaning; therefore, the surface structure as well as the deep structure contribute to the semantic interpretation. My position in this thesis is that transformations are allowed to the extent they do not change meaning. By introducing delimiters immediately after a constituent (its scope) in the deep structure (cf. PS (5)), it is not necessary to propose a meaning-changing transformation (i.e. WA-attachment). It should be noted that Fraser (1971a) proposes the same analysis of English only, even, etc. as PS (5) of this thesis. I quote his statement:

> "The issue here is this: should even be introduced into the deep structure associated with the constituent which serves as its scope in surface structure before any syntactic transformations apply; or should even be associated with its scope at some (much) later point in the derivation, perhaps even after the phonological component has applied? I shall assume for the sake of argument (and also because I think it is the correct solution) the former position and assume that an even is introduced immediately before a constituent (its scope) in the deep structure." (1971a:164)

Third, Kuroda's argument that a special type of filtering transformation (cf. 1969:339-341) is linguistically significant is not convincing.[13] By a special type of filtering transformation, Kuroda seems to mean the sentence-final delimiter deletion (e.g. WA-Deletion).

His justification for the deletion of the delimiter at the end of the basic representation is based upon the ill-formedness of a sentence in which the same delimiter occurs more than once in a simplex sentence. He cites the following English examples for illustration (1969:339):

(14) a. * The flood even even devastated his farm.

b. * The flood even devastated even his farm.

He assumes that the first even in (14a, b) modifies the whole sentence. Upon this assumption, he judges that these sentences are ill-formed. In short, he claims that even, only, etc. cannot occur more than once in a simplex sentence. In order to make these sentences grammatical, he introduces a special type of filtering transformation, which deletes the first even. By applying this deletion transformation (which is equivalent to WA-Deletion), he gets the following well-formed sentences:

(15) a. The flood even devastated his farm.

b. The flood devastated even his farm.

The point is that Kuroda tries to justify his WA-Deletion, which deletes the sentence-final wa, upon the assumption that even or only cannot occur more than once in a simplex sentence (= the one-per-sentence limitation).

The one-per-sentence limitation of even, only, etc. is interpreted in two ways. It seems to me that Kuroda claims that even or only cannot occur more than once in a simplex, once they modify the whole sentence. He claims that the same thing can be said for the Japanese particles under discussion (i.e. those which I call delimiters). If Kuroda does not accept this interpretation, his optional iterative application of *WA*-Attachment (cf. 9b) is contradictory. When we discussed Kuroda's first point, we already suggested that Korean and Japanese delimiters do not modify a whole sentence unless it is embedded. Thus, the one-per-sentence limitation of delimiters cannot justify Kuroda's *WA*-Deletion. Chomsky (1969), Partee (1970a), and Fraser (1971) interpret the claim differently; they interpret the one-per-sentence limitation of *only*, *even*, etc. to mean that these words cannot occur more than once in a sentence. The second interpretation disregards Kuroda's condition, '*once it modifies the whole sentence*'. Even in the second interpretation, Kuroda's *WA*-Deletion cannot be justified. Chomsky (1969) supports Kuroda's view on the one-per-sentence limitation of *even*, or *only*. Chomsky (1969:27-28) says that *only* or *even* can appear in any of the blanks of (16), but it is questionable whether they can appear in more than one of these positions; in particular, neither *only* nor *even* can occur in all of these positions.

(16) ___ John ___ reads ___ books on politics.

However, Kuroda's and Chomsky's observation does not necessarily hold true. Fraser (1971:163-4) refutes their observation by citing the following examples in English:

(17) a. *Even* I *even* gave a book to Mary.

b. John won't *even* wave goodbye to *even* his sister.

c. *Even* words give trouble to *even* linguists.

d. *Even* an idiot couldn't *even* refuse that offer.

e. *Even* Henry won't *even* lift a finger around here.

In the case of Korean, the one-per-sentence limitation of a delimiter is necessarily false. I will fill up all the blanks of the sentence (16) with delimiter *man* 'only'.

(18) John-*man* cəngchihak-chek-*man* ilk-ki-*man* ha-nɨn-ta
only politics book only read Comp only do
'Only John does nothing but read only books on politics.'

The same thing can be said for Japanese. Thus, Kuroda's *WA*-Deletion is unjustified and unnecessary.

So far in this section, we have claimed that delimiters must be introduced immediately after a constituent (its scope) in the constituent structure such as (19), and that attachment transformation is not based upon convincing assumptions.

(19) $$\begin{bmatrix} \text{NP} \\ \text{Adv} \\ \text{Conj} \end{bmatrix} \rightarrow \begin{bmatrix} \text{NP}' \\ \text{Adv}' \\ \text{Conj}' \end{bmatrix} \quad \text{(Delimiter)}$$

This rule accounts for all the possible occurrences of delimiters in Korean and in Japanese. This implies that there are no sentence-modifying delimiters; there are only constituent-modifying delimiters. What we need to do now is to elaborate rule (19), which will ultimately result in PS (5) of this study.

The constituent structure rule (19) allows only one delimiter to be suffixed to an NP, an adverb, or a conjunctor. However, this is an over-simplification. Delimiters may be doubled or tripled after one delimiter-attachable element. This fact is shown in the following:

(20) a. puin-ka namphyən-lɨl ani mit-nɨn-ta
wife Nom husband Acc not believe
'The wife does not believe her husband.'

b. puin-*kkaci* namphyən-lɨl ani mit-nɨn-ta
even
'Even the wife does not believe her husband.'

c. puin-kkaci-to namphyən-lɨl ani mit-nɨn-ta
even also
'Even the wife also does not believe her husband.'

d. puin-kkaci-man-lato namphyən-lɨl mit-A-ya ha-nɨn-ta
even only at least believe must do
'At least only the wife must believe her husband.'

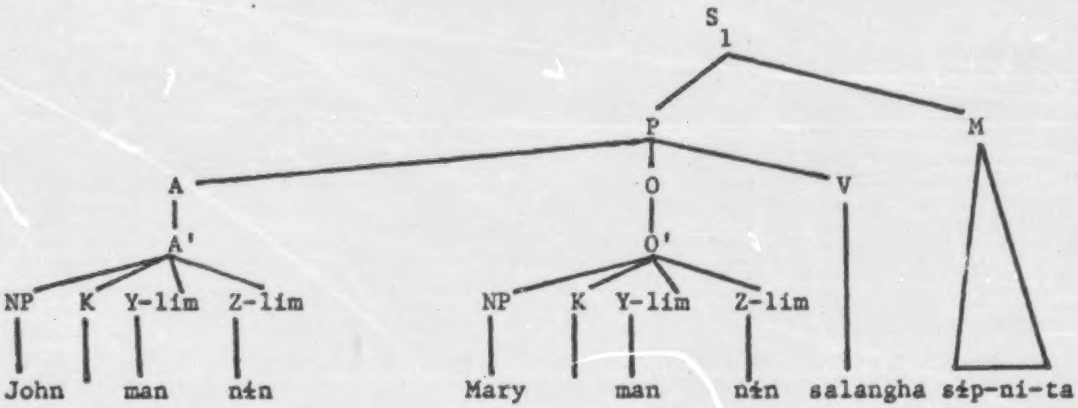
In order to accommodate the data above, we must expand rule (19) into rule (21), which will ultimately become PS (5).

(21) $$\begin{bmatrix}\text{NP}\\ \text{Adv}\\ \text{Conj}\end{bmatrix} \rightarrow \begin{bmatrix}\text{NP}'\\ \text{Adv}'\\ \text{Conj}'\end{bmatrix} \quad (\text{X-lim}) \quad (\text{Y-lim}) \quad (\text{Z-lim})$$

By way of illustration, let us take sentence (22).

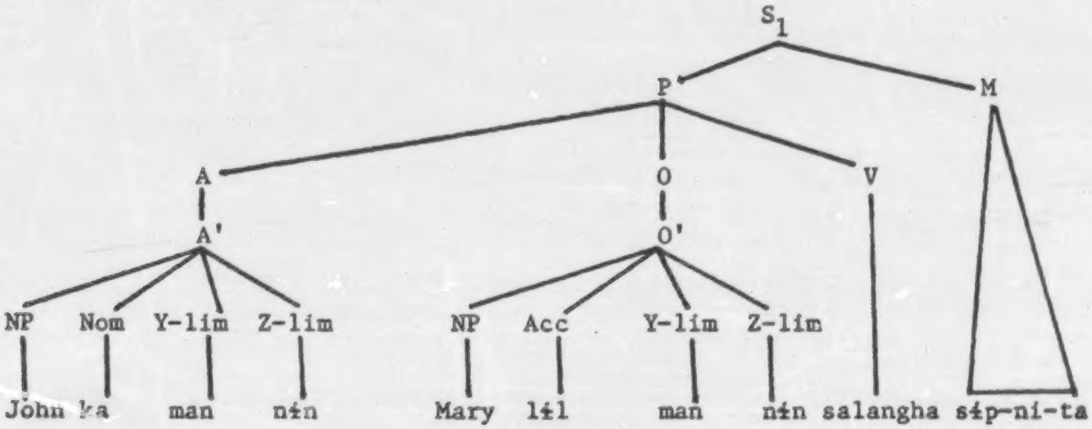
(22) John-man-nɨn Mary-man-nɨn salangha-sɨp-nɨn-ta
Y-lim Z-lim Y-lim Z-lim love
'As far as John and Mary are concerned, only John loves only Mary.'

(23) (underlying)


S1
P
M
A
O
V
A'
O'
NP
K
Y-lim
Z-lim
John
man
nɨn
NP
K
Y-lim
Z-lim
Mary
man
nɨn
salangha
sɨp-ni-ta

Normal Case Marking yields (24).

(24)



* /// John-ka-man-nɨn Mary-lɨl-man-nɨn salangha-sɨp-ni-ta ///

As it stands, output (24) is not yet well-formed. The correct surface sentence must be (25), where the Nominative marker ka and the Accusative marker lɨl must be deleted through obligatory Affected Case Marker Deletion (cf. 2.4.).

(25) /// John-man-nɨn Mary-man-nɨn salangha-sɨp-ni-ta ///

2.4. Interaction of Case Markers and Delimiters

In the preceding section 2.3., I proposed that a delimiter be introduced in deep structure immediately after its scope, the element to which it is attached. Since an NP has a case marker, if we choose delimiter(s) from PS (5), the NP will be followed by a cluster of a case marker and one or more delimiters. In the last part of the preceding section, we noticed a sentence which is ungrammatical because of the presence of the Nominative and Accusative markers before delimiter(s). As we will see shortly, the Nominative and Accusative markers are obligatorily deleted before any delimiter. This phenomenon is one type of interaction of case markers and delimiters. Another type of interaction is the optional permutation of a case marker and a delimiter. Personal pronouns (i.e. na 'I', ne 'you', kɨ-i 'he') behave differently from other nouns in terms of the deletion of case markers before delimiters. In this section, I will discuss these phenomena.

The fact that the Nominative and Accusative markers are obligatorily deleted before a delimiter is shown in the following sentences: (The dash refers to the deletion of a case marker.)

(1) Obligatory Deletion of Case Markers before X-delimiters

John-{*ka, __ }- {macə, kkaci, puthə, mata}
Nom X-lim's

Mary-{*lɨl-, __}-{macə, kkaci, puthə, mata} salangha-nɨn-ta
Acc X-lim's love Indi Stat
'John loves Mary.' (to be modified with the meaning of the individual delimiter)

Case markers other than the Nominative and Accusative markers are compatible with X-delimiters. In view of this dichotomy of case markers, we can raise a question as to what makes this distinction. In order to obtain a more general answer to this question, we will postpone a speculation until we examine the interaction of case markers and Z-delimiters.

Some case markers are optionally deleted before X-delimiters. Observe the following sentences:

(2) Optional Deletion of Case Markers before X-delimiters

a. John-ka illyoil-{e, __}-{macə, kkaci, puthə, mata}
Nom Sunday Tim X-lim's

kyohoe-{esə, * __}-{macə, kkaci, puthə, mata}
church Loc X-lim's

sonsukən-{lo, * __}-{macə, kkaci, puthə, mata}
handkerchief Inst X-lim's

cipcaka-lɨl ttakk-nɨn-ta
cross Acc clean Indi Stat

'John cleans the cross with a handkerchief at church
on Sundays.' (to be modified with the meaning of the
individual delimiter)

b. John-ka phyənci-lɨl Seoul-{esə, * __}-{macə, kkaci,
Nom letter Acc Source X-lim's

puthə} Honolulu-{lo, __}-{macə, kkaci, puthə}
Goal X-lim's

pone-nɨn-ta
send Indi Stat

'John sends a letter from Seoul to Honolulu.'

c. John-ka sənmul-lɨl Harry-{ekesə, * __} -{macə, kkaci,
Nom gift Acc Anim-Source X-lim's

puthə, mata} Mary-{ekelo, * __}-{macə, kkaci, puthə, mata}
Anim-Goal X-lim's

cənha-nɨn-ta
deliver

'John delivers a gift from Harry to Mary.

d. John-ka Mary-{eke, __}-{macə, kkaci, puthə, mata}
Nom Exp X-lim's

hankukmal-lɨl Harry-{hako, * __}-{macə, kkaci, puthə}
Korean Acc Com X-lim's

kalɨchi-nɨn-ta
teach Indi Stat

'John teaches Mary Korean with Harry.'

e. John-ka Mary-{eke, * __}-{macə, kkaci, puthə, mata}
Nom Agt X-lim's

mul-li- Ass-ta
bite Pass Past Stat

'John was bitten by Mary.'

f. John-ka Mary-{eke, __ }-{macə, kkaci, puthə, mata}
Nom Agt X-lim's

kongpu-lɨl sikhi-nɨn-ta
study Acc cause some to do

'John caused Mary to study.'

Sentence (2a) shows that the Time marker is optionally deleted before X-delimiters but the Location and Instrument markers are not. (2b-c) show that the Source marker, whether the NP is animate or inanimate, is not optionally deleted before X-delimiters. In the case of the Goal marker, the optional deletion is sensitive to the feature of an NP. The animate Goal marker is not optionally deleted before X-delimiters, but the inanimate Goal marker is optionally deleted. (2e,f) show that the Agent marker is not optionally deleted before X-delimiters in a passive sentence, but it is optionally deleted in a causative sentence.

One might say that both obligatory deletion and optional deletion of particular case markers are affected by X-delimiters. This conclusion, however, is not true. What is true is that only the obligatory deletion of the Nominative and Accusative markers is affected by X-delimiters. Suppose X-delimiters are absent in sentences (1-2). Although we ignore X-delimiters in sentences (2), our earlier judgment on grammaticality is not affected; some case markers are simply optional, regardless of the presence of delimiters. This means that optional deletion of particular case markers is not affected by X-delimiters at all. Since sentences (2) do not illustrate the optional deletability of the Nominative and Accusative markers, we must examine whether these case markers are optionally deleted in a sentence which does not contain X-delimiters:

(3) a. na-{ka,__ } hankuk-salam i-ta
I Nom Korean person be Stat
'I am Korean.'

b. John-ka hankuk-salam-{lɨl, __} coh-A ha-nɨn-ta
Nom Korean fond-of Comp do Indi Stat
'John likes Koreans.'

These sentences show that the Nominative and Accusative markers are also optionally deleted. It is now clear that only obligatory deletion of the Nominative and Accusative markers is affected by X-delimiters. All optional deletion is unaffected by X-delimiters.

In order to capture a general pattern of deletability of case markers before delimiters, we must examine all types of delimiters. Y-delimiters and Z-delimiters behave the same as X-delimiters. In other words, only the Nominative and Accusative markers are obligatorily deleted before any delimiter. Suppose we replace X-delimiters in (1-2) by Y-delimiters or Z-delimiters. The replacement of delimiters in these sentences does not affect the above conclusions. Let us show these observations in the following table:

(4) Deletability of Case Markers before Delimiters

	Obl. Deletion	Opt. Deletion	No Deletion
Before X-lim	Nominative Accusative	Time Experiencer Inanimate Goal Agent/in Causative	Instrument Location Source Animate Goal Agent/in Passive Comitative
Before Y-lim	same as above	same as above	same as above
Before Z-lim	same as above	same as above	same as above
No Delimiter	None	Nominative Accusative and above	same as above
Interaction	Affected by Delimiter	Not affected by delimiters	

As the table shows, only the Nominative and Accusative markers are obligatorily deleted before delimiters. This obligatory deletion is affected by delimiters, since there is no instance where the Nominative and Accusative markers are obligatoirly deleted when they occur without delimiter(s). The optional deletion of particular case markers is not affected by delimiters, since they are also optionally deletable when they occur without delimiters. The 'no delimiter' line indicates this fact.

From the above observations, we can develop some speculations. The Nominative and Accusative markers behave the same in terms of obligatory deletion before delimiters. To that extent, they can be regarded as a natural class. One thing we can speculate about in connection with the obligatory deletion of these case markers is related to the degree of optional deletion (cf. next to the last column in the above table). It seems to me that in colloquial speech the most frequently deletable case markers are the Nominative and Accusative markers. Then, we may raise a question of why these case markers are most frequently deleted. Case markers have the function of showing relationships of NP's within a sentence. If the relationship of certain NP's is somehow (i.e. by word order) clear, the function of case markers for the NP's can be said as rather redundant. If we assume that language workds towards eliminating redundant marking, we may ascribe the deletion of case markers to the nature of redundancy. In other words, the surface subject and object are relatively clear in terms of the relationship of NP's within a sentence. To that extent, they can be recognizable without some sort of additional syntactic support.

The above line of speculation may be related to the following universal change. There seems to be an interesting universal correspondence between word order and case marking. As a general tendency, case-marked languages seem to be languages with relatively free word order. On the other hand, non-case-marked languages seem to be languages with relatively bound word order. In terms of total redundancy, the two types of languages are the same. Restriction in one aspect is compensated by non-restriction in another aspect. In terms of the direction of historical change, however, there seems to be a dominant direction; case-marked languages with relatively free word order change to non-case-marked languages with relatively bound word order, but not the other way around. As an example of such an unmarked direction of change, we can cite English (cf. Baugh, 1957:64). In the case of Korean, I have not found diachronic data which show that Korean is following the above indicated direction. But in view of the fact that many case markers are frequently deleted in the fixed (unmarked) word order, Korean (and Japanese) seems to follow the indicated direction.

The fact that the Nominative and Accusative markers compose a natural class is also manifested in the optional permutation of these case markers with X- and Y-delimiters, as shown in (5):

(5) *Optional Permutability of Case Markers and X- and Y-delimiters*

a. John-{macə, kkaci, puthə, mata, ... man}-ka
X-lim's Y-lim Nom

Mary-{macə, kkaci, puthə, mata, ... man}-lɨl
Acc

salangha-nɨn-ta
love Indi Stat

'John loves Mary.' (to be modified with the meaning of the individual delimiter)

b. John-ka illyoil-{macə, kkaci, puthə, mata, ... man}-*e
Nom Sunday Tim

kyohoe-{macə, kkaci, puthə, mata, ... man}-*esə
church Loc

sonsukən- {macə, kkaci, puthə, mata}-*lo
handkerchief X-lim's
man-lo
Y-lim Inst

sipcaka-lɨl ttakk-nɨn-ta
cross Acc clean Indi Stat

'John cleans the cross with a handkerchief at church on Sunday.'

c. John-ka phyənci-lɨl Seoul-{macə, kkaci, puthə, ... man}-
Nom letter Acc

*esə Honolulu-{macə, kkaci, puthə, ... man}-*lo
Source Goal

pone-nɨn-ta
send Indi Stat

'John sends a letter from Seoul to Honolulu.'

d. John-ka Mary-{macə, kkaci, puthə, mata, ... man}-*eke
Nom Exp

hankuk-mal-lɨl Harry-{macə, kkaci, puthə, mata, ... man}-
Korean Acc

*hako kalɨchi-nɨn-ta
Com teach Indi Stat

'John teaches Mary Korean with Harry.'

e. John-ka Mary-{macə, kkaci, puthə, mata, ... man}-*eke
Nom Agt

mul-li- Ass-ta
bite Pass Past Stat

'John was bitten by Mary.'

f. John-ka Mary-{macə, kkaci, puthə, mata, ... man}-*eke
Nom Agt

kongpu-lɨl sikhi- Ass-ta
study Acc cause-someone-to-do Past Stat

'John caused Mary to study.'

Sentence (5b) shows that the Instrument marker also may permute with the Y-delimiter man 'only'. The fundamental reason for this unusual pattern is not clear. Let us show these observations in the following table.

(6) Permutability of Case Markers and Delimiters

	Opt. Permutation	Non-permutation
with X-lim	Nominative Accusative	The Rest
with Y-lim	Nominative Accusative Instrument	The Rest
with Z-lim	None	All

We now formulate rules to account for the above observations; obligatory deletion of the Nominative and Accusative markers before delimiters, and optional permutation of the Nominative, Accusative, and Instrument markers with X- and Y-delimiters:

(7) Case Marker/Delimiter Permutation (opt)

$$\text{SD:}\quad W + [NP + X - \left[\begin{array}{c} \left\{\begin{array}{l}\text{Nom}\\ \text{Acc}\end{array}\right\} - \left\{\begin{array}{l}\text{X-lim}\\ \text{Y-lim}\end{array}\right\} \\[1em] \text{Inst} \qquad \text{Y-lim}\end{array}\right] - Y]_{C} + Z$$

1 2 3 4

$$\text{SC:}\quad 1,\ 2,\ 3,\ 4 \Longrightarrow 1,\ 3,\ 2,\ 4$$

(8) Affected Case Marker Deletion (obl)

$$\text{SD:}\quad W + [NP + X - \left\{\begin{array}{l}\text{Nom}\\ \text{Acc}\end{array}\right\} - \left\{\begin{array}{l}\text{X-lim}\\ \text{Y-lim}\\ \text{Z-lim}\end{array}\right\} + Y]_{C} + Z$$

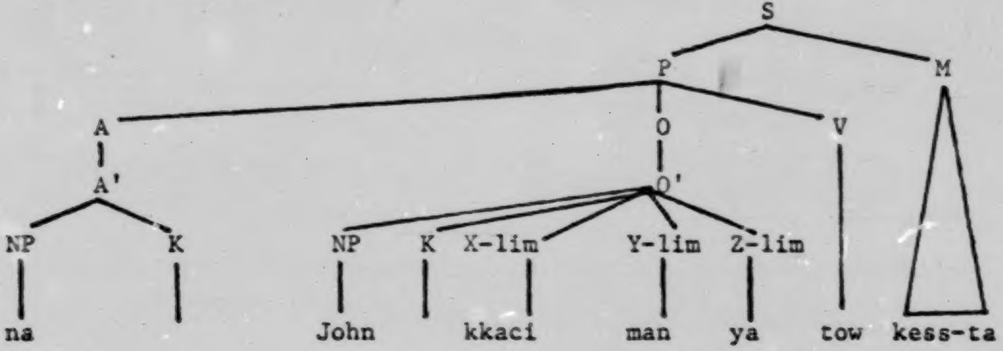
1 2 3

$$\text{SC:}\quad 1,\ 2,\ 3 \Longrightarrow 1,\ \emptyset,\ 3$$

For illustration of these rules, let us take the following sentence:

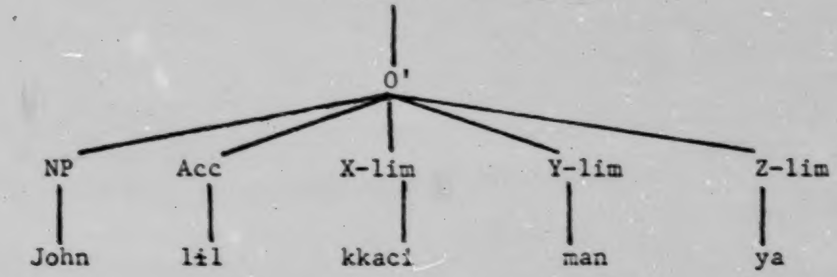
(9) na-ka John-kkaci-man-ya tow-kess-ta
I Nom X-lim Y-lim Z-lim help Vol Stat
even only at least
'I will help at least only John.'

(10) (underlying)



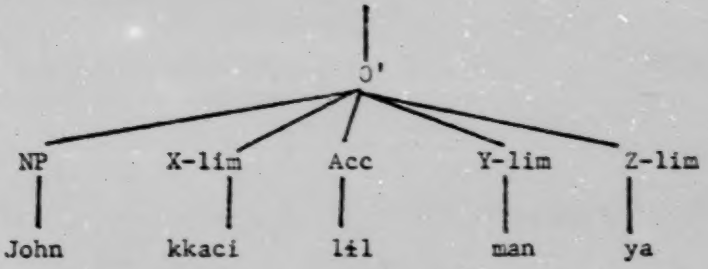
NCM-a replaces K under A by Nom, and NCM-b replaces K under O by Acc, yielding (11), after the second lexical pass. Since Affected Case Marker Deletion and Case Marker-Delimiter Permutation are strictly local transformations, we will show only the relevant parts of the tree below.

(11)


O'
NP
Acc
X-lim
Y-lim
Z-lim
John
lɨl
kkaci
man
ya

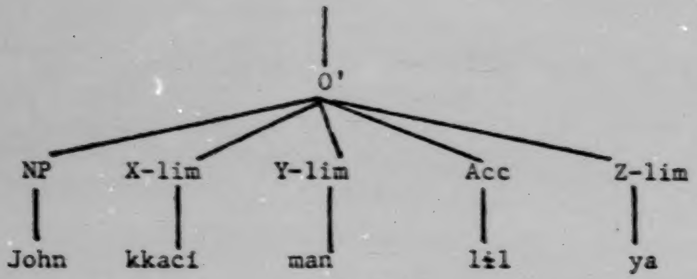
Output (11) is not yet well-formed, since the Accusative marker cannot be retained before delimiters. If we apply optional Case Marker/Delimiter Permutation, we will have (12).

(12)


O'
NP
X-lim
Acc
Y-lim
Z-lim
John
kkaci
lɨl
man
ya

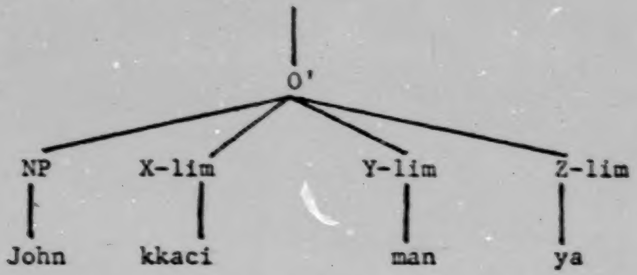
Output (12) is not yet well-formed, since the Accusative marker cannot be retained before delimiters. Since the structure (12) still meets the SD of Case Marker/Delimiter Permutation (opt), we may reapply it. Now we have (13):

(13)



Output (13) is still not yet well-formed. Now the structure (13) does not meet the SD of Case Marker/Delimiter Permutation (opt). Affected Case Marker Deletion (obl) obligatorily deletes the Accusative marker, yielding (14), which is the correct output.

(14)



/// na-ka John-kkaci-man-ya tow-kess-ta ///

Other routes of the derivation under consideration are also possible. If we do not apply Case Marker/Delimiter Permutation (opt) to (11), the next rule, Affected Case Marker Deletion, obligatorily deletes the Accusative marker, yielding the same output as (14). Similarly, if we do not apply Case Marker/Delimiter Permutation (opt) to (12) or to (13), the next rule Affected Case Marker Deletion obligatorily deletes the Accusative marker, yielding the same output as (14).

Tempted by the obligatory deletion of the Nominative and Accusative markers before delimiters, one might propose to assign delimiters directly to an NP without postulating the process of the interaction of case markers and delimiters (cf. Affected Case Marker Deletion). For example, Shibatani (1970:10) proposes that topicalization on the one hand and subjectivization or objectivization on the other be in a 'bleeding' relationship. By topicalization, Shibatani means the assignment of the delimiter *wa* (cf. Korean *nɨn*) to an NP. By subjectivization and objectivization, he means the assignment of the Nominative *ga* (cf. Korean *ka*) and the Accusative *o* (cf. Korean *lɨl*) to an NP, respectively. Let us call Shibatani's proposal the 'non-interaction view' as opposed to the interaction view proposed in this study. The non-interaction view, however, is not adequate, because it cannot account for the fact that the Nominative or Accusative marker is uniquely recoverable. Observe the following sequential sentences:

(15) Speaker: a. John-ka muəs-lɨl mək-Ass-A-yo ?
Nom what Acc eat Past Ques Pol
'What did John eat?'

Hearer 1: b. John-*nɨn* kimchi-lɨl mək-Ass-A-yo
Acc eat Past Stat Pol
'John ate kimchi.'

Hearer 2: c. nu-ka kimchi-lɨl mək-Ass-A-yo ?
Who Nom Acc eat Past Ques Pol
'Who ate kimchi?'

Speaker: d. John-*ka* kimchi-lɨl mək-Ass-A-yo
Acc eat Past Stat Pol
'John ate kimchi.'

Suppose that John in (15b) is the topic (or theme), which has nɨn (cf. Japanese wa). Shibatani's proposal if applied to Korean would require that John in (15b) which has nɨn must not be assigned the Nominative marker ka (cf. Japanese ga) in the total derivation. On the other hand, this study claims that John in (15b) must be assigned the Nominative marker as the surface subject first and then it must be obligatorily deleted before the delimiter nɨn. I share this view with Kuroda (1965a) and Inoue (1969). In order to choose one of the two options, we need to examine the above sequential sentences. Suppose the hearer 2 could not clearly hear what the speaker and the hearer 1 said, and he asked the question (15c). To this question, the original speaker will answer with sentence (15d), where John has the Nominative marker ka (cf. Japanese ga), which sounds natural. The question is where the Nominative marker ka in (15d) came from. If John in (15b, d) does not function as the surface subject, there is no source from which the Nominative marker ka will come. Any native speaker of Korean will uniquely recover this information. This fact means that the Nominative marker ka in (15d) is 'uniquely recoverable'. An assumption made by generative grammar is that unique recoverability of an element presupposes its deletion at some point in the total derivation. Grinder (1971) dichotomizes deletion transformations into identity deletion and free deletion. The former includes Equi-NP Deletion, VP Deletion, Gapping, etc. whereas the latter includes unspecified Agent Deletion (e.g. Agent in a passive sentence), Object Deletion (e.g. something in I ate something), etc. The deletion of case markers is a type of free deletion, since it involves no reference to an identical case marker elsewhere in the sentence.

We now turn to personal pronouns. As we see in table (4), the Nominative marker is obligatorily deleted before delimiters. However, personal pronouns (na 'I', ne 'you', kɨ-i 'he') do not obey this general pattern. In 2.1., we noted that the Nominative marker has two variants; one is the ka-Nominative marker which occurs after vowels, and the other is the i-Nominative marker which occurs after consonants. Interestingly enough, however, such a phonological conditioning does not hold true in the interaction with the Y-delimiter man 'only', and Z-delimiters na 'rather', lato 'even as the last recourse'. Observe the following sentences:

(16) a. {na, ne, kɨ-i} - {ka, __} -{ man, ... na, lato}
I you he Nom Y-lim Z-lim's

Mary-lɨl salangha-nɨn-ta
Acc love Indi Stat
'I/You/He love Mary.' (to be modified with the meaning of the individual delimiter)

b. Hwaca-{*ka, __}-{ man, ... na, lato}
Nom
John-lɨl salangha-nɨn-ta
Acc love
'Hwaca loves John.'

c. John- {*i, __ }- {man, ... na, lato}
Nom

Mary-lɨl salangha-nɨn-ta
'John loves Mary.'

A comparison of (16a) and (16b) shows that, if the NP is a personal pronoun, the ka-Nominative marker is optionally deleted before delimiters man, na, lato, whereas if the NP is not a personal pronoun, the *ka*-Nominative marker is obligatorily deleted before delimiters *man*, *na*, *lato*. Sentence (16c) shows that the *i*-Nominative marker is obligatorily deleted before delimiters under discussion. Let us show this difference between the two Nominative markers in the following table:

(17) Personal Pronoun, and Deletability of Nominative Marker before Delimiters *man*, *na*, *lato*

	Obl. Deletion	Opt. Deletion
Before Y-lim *man*	*i*-Nominative	*ka*-Nominative
Before Z-lim *na*, *lato*	*i*-Nominative	*ka*-Nominative

One might argue that the above generalization is spurious, citing the following data:

(18) a. Yongsik-*i*-{*man*, *na, lato*} Mary-lɨl salangha-nɨn-ta
Y-lim Z-lim's Acc love
'Yongsik loves Mary.'

b. holang-*i*-{*man*, *na, lato*} tampe-lɨl phi-nɨn-ta
tiger Y-lim Z-lim's cigarette smoke
'A tiger smokes.'

These data show that the form *i* also occurs before delimiters *man*, *na*, *lato*. However, such an analysis is definitely wrong. Observe the following sentences:

(19) a. Yongsik-*i*-*ka*-{*man*, *na, lato*} Mary-lɨl salangha-nɨn-ta
Nom Y-lim Z-lim's Acc love
'Yongsik loves Mary.'

b. Mary-ka Yọngsik-*i*-*lɨl* salangha-nɨn-ta
Nom Acc love
'Mary loves Yọngsik.'

c. Mary-ka holang-*i*-*eka* kiss-lɨl tangha-ʌss-ta
Nom Agt Acc adversely-receive
'Mary was adversely kissed by a tiger.'

These sentences show that the form *i* is not a case marker. If *i* is the *i*-Nominative, we must explain why the Nominative marker can be combined with another Nominative marker, the Accusative marker, or the Agent marker within an NP. In fact, Korean requires that when persons' names or certain animals' names end with a consonant, the form *i* may be suffixed to the name, and then a case marker and/or delimiter(s) may be added. This process may be referred to as *I*-Epenthesis.[14]

Returning to the two variants of the Nominative marker, we will discuss a theoretical issue on rule ordering and level. Notice that the *i*-Nominative marker and the *ka*-Nominative marker are separated from each other in a deletion operation (which is a syntactic rule) before certain delimiters. Such a separation presupposes that the two variants of the Nominative marker are separated by morphophonemic rules prior to some syntactic rules. If this phenomenon is claimed to exist only in Korean, the claim may be a far-fetched one. However, it has recently been observed that there are instances in other languages where the semantic level, the syntactic level, and the phonological level must interact during the total derivation. According to the observation made (in German) by Bierwisch (1968), the most general rule of stress assignment cannot apply correctly unless it applies before a certain movement rule. For the reverse instance, according to the observation made by Baker (1971), a certain movement rule cannot apply correctly unless it has as part of its input the specification of phonological stress on one of the segments mentioned in its structural description. King (1970) observed that the rule of Auxiliary Reduction (e.g. he is → he's), which is a phonological rule, must not apply if the constituent immediately following the finite auxiliary has been either deleted or moved by a syntactic rule. Lakoff (1971a:38) even states that 'global' rule will destroy many of the old-style transformational arguments for rule ordering. At any rate, the data under consideration also show that certain phonological rules must precede certain syntactic rules. Furthermore, Cook (1971) observes that, contrary to the syntactic constraint which blocks the be contraction (i.e. Auxiliary Reduction) in English, Sarcee (an Athapaskan language of Canada) has a phonological constraint which blocks a set of syntactic rules.

2.5. Accusative Intrusion and Case Marker Deletion

In this section, we will examine optional replaceability of certain case markers by the Accusative marker. Such a replaceability is referred to as 'Accusative Intrusion' in this study. There is an interesting implicational relation between Accusative Intrusion and Case Marker Deletion. An explanation for the implication will be attempted.

The Accusative marker lɨl is a powerful case marker in the sense that it may optionally replace certain case markers without affecting the original meaning. In colloquial speech, such a replacement is a common occurrence. Case markers (not Cases) such as Agent, Experiencer, Source, Goal and Time(2) are subject to Accusative Intrusion. The rest are not.

The following examples show that Nominative, Instrument, Location, Time(1) and Comitative markers are not optionally replaced by the Accusative marker. An explanation will be suggested later.

(1) a. John-{ka, *lɨl} Mary-lɨl salangha-nɨn-ta
Nom Acc Acc love Indi Stat
'John loves Mary.'

b. John-ka namu-lɨl thop-{lo, *lɨl} pe-nɨn-ta
Nom tree Acc saw Inst Acc cut Indi Stat
'John cuts a tree with the saw.'

c. John-ka Mary-lɨl coffee-house-{ese, *lɨl} manna-Ass-ta
Nom Acc Loc Acc meet Past Stat
'John met Mary at a coffee-house.'

d. John-ka Mary-lɨl illyoil-{e, *lɨl} manna-Ass-ta
Nom Acc Sunday Tim(1) Acc meet Past Stat
'John met Mary on Sunday.'

e. John-ka Mary-{hako, *lɨl} suyeng-ha-Ass-ta
Nom Com Acc swim Past Stat
'John swam with Mary.'

Agent, Experiencer, Source, Goal and Time(2) markers are optionally replaced by the Accusative marker. But this generalization is an over-simplification. Each case marker except Time(2) just cited is subject to certain constraints. Let us examine the Agent marker first. Agent Case is realized as the Nominative marker ka as any

Case is if it is the subject, but it is realized as the Agent marker *eke/e* if it is not the subject (cf. Case Marking in 2.1.). There are the two types of constructions where Agent Case is realized as the Agent marker. One is a passive sentence, and the other is a causative sentence. In a passive sentence, the Agent marker is not replaceable by the Accusative marker. But in a causative sentence, it is replaceable. This division is attested in the following examples:

(2) *Passive Sentence*

a. John-ka Mary-{eke, *lɨl} mul-li-Ass-ta
Nom Agt Acc bite Pass Past Stat
'John was bitten by Mary.'

Causative Sentence

b. John-ka Mary-{eke, lɨl} kongpu-lɨl sikhi-Ass-ta
Nom Agt Acc study Acc make-one-to-do Past Stat
'John caused Mary to study.'

Such a division of replaceability of the Agent marker by the Accusative marker is not accidental. In a passive sentence, unmarked word order (given by the subject choice hierarchy) is not retained because of the movement of Agent Case from its sentence-initial position. But in a causative sentence, unmarked word order is retained on the surface. This difference results in the division of replaceability of the Agent marker.

The Experiencer marker is optionally replaced by the Accusative marker if it is not moved from its original position (given by the subject choice hierarchy). But if it is moved by a movement transformation (e.g. Psych-Movement = Experiencer/Object Inversion), it is not replaced:

(3) Not Moved

a. John-ka Mary-{eke, lɨl} hankuk-mal-lɨl kalɨchi-nɨn-ta
Nom Exp Acc Korean Acc teach Indi Stat
'John teaches Mary Korean.'

Moved (by Psych-Movement)

b. na-ka banana-ka silh-ta (Basic)
I Nom Nom not-fond-of
'I do not like bananas.'

b'. banana-ka na-{eke, *lɨl} silh-ta (by Psych-Movement)
Nom I
'I do not like bananas.'

As in the case of replaceability of the Agent marker, the Experiencer marker cannot be replaced by the Accusative marker if a movement transformation which affects the surface word order has already applied.

Replaceability of the Source marker by the Accusative marker is subject to rather complex constraints. Verbs of clear-cut unidirectional movement are required for the Source marker to be replaced by the Accusative marker. Such verbs are ttena 'leave', neli 'get off', neli-A-o 'come down from', isa-ha 'move house', olmki 'move', etc.

(4) Verb of Unidirectional Movement

a. John-ka Seoul-{ese, lɨl} ttena-Ass-ta
Nom Source Acc leave Past Stat
'John left Seoul.'

b. kemi-ka chencəng-{ese, lɨl} neli-A-o-Ass-ta
spider Nom ceiling Source Acc come-down Past Stat
'A spider came down from a ceiling.'

c. John-ka bus-{ese, lɨl} neli-Ass-ta
Nom Source Acc get-off Past Stat
'John got off the bus.'

d. John-ka Seoul-{ese, lɨl} isa-ha-Ass-ta
Nom Source Acc move-house Past Stat
'John moved from Seoul.'

Verb of Non-Unidirectional Movement

e. John-ka Seoul- {ese, *lɨl} o-Ass-ta
Nom Source Acc come Past Stat
'John came from Seoul.'

f. John-ka Seoul- {ese, *lɨl} ka-Ass-ta
Nom Source Acc go Past Stat
'John went from Seoul.'

Some further constraints are needed. Notice that sentences (4a-d) are so-called intransitive constructions where the Accusative marker is absent. In a so-called transitive sentence such as (5), where the Accusative marker is present, the Source marker cannot be replaced by the Accusative marker.

(5) Transitive Construction

a. John-ka chek-lɨl cheksang-{ese, *lɨl} neli-i-Ass-ta
Nom book Acc desk Source Acc put-down Past Stat
'John put a book down from the desk.'

b. John-ka phali-lɨl kuk- {ese, *lɨl} ttene-i-Ass-ta
Nom fly Acc soup Source Acc move-away Past Stat
'John removed a (dead) fly from the soup.'

One might say that if the Accusative marker is already present in a simplex sentence, Accusative Intrusion is blocked. However, this view is wrong. Sentence (3a) clearly shows that more than one Accusative marker can co-occur in a simplex sentence.

Still another constraint is required for the Source marker to be replaced by the Accusative marker. If the Goal marker is present, it is not replaced.

(6) a. John-ka Seoul- {esə, *lɨl} Honolulu-lo ttəna-Ass-ta
Nom Source Acc Goal leave Past Stat
'John left Seoul for Honolulu.'

b. John-ka Seoul- {esə, *lɨl} Honolulu-lo isa-ha-Ass-ta
Nom Source Acc Goal move-house Past Stat
'John moved from Seoul to Honolulu.'

Another constraint must be added. If the animate Source marker is involved (i.e. eke-esə, cf. 2.1.), Accusative Intrusion is not possible.

(7) Animate Source Marker

a. John-ka apəci- {eke-esə, *lɨl} olmki-Ass-ta
Nom father Source Acc move Past Stat
(Lit.) 'John moved from father.'
'John moved from his father's house.'

b. ai-ka əməni- {eke-esə, *lɨl} neli-A-o-Ass-ta
child Nom mother Source Acc come-down Past Stat
(Lit.) 'The child came down from mother.'
'The child fell from the mother's back (or arms).'

The Source marker is optionally replaced by the Accusative marker (1) if a sentence does not contains a transitive verb, (2) if a sentence does not contains the Goal marker, (3) if a sentence contains a verb of clear-cut unidirectional movement, or (4) if an NP is not animate. The reason why replaceability of the Source marker by the Accusative marker is subject to such complex constraints seems to be due to high functional load of the Source marker. In other words, the Source marker has low redundancy. This speculation may be supported by the fact that, even in non-case-marked languages such as English, prepositions which correspond to the Source marker are not deletable.

The Goal marker is also subject to complex constraints. First of all, the Goal marker is divided into the animate Goal marker and the inanimate Goal marker (cf. 2.1.) with respect to Accusative

Intrusion. The animate Goal marker cannot be replaced by the Accusative [illegible] construction. On the other hand, the inanimate Goal marker is replaceable. Let us recall that the Goal marker has two variants. One is the e-Goal marker and the other is the lo-Goal marker (cf. 2.1.).

(8) Animate Goal Marker

a. John-ka Mary- {eke-e / eke-lo, *lɨl} ka-Ass-ta
Nom Goal(1) Goal(2) Acc go Past Stat
'John went to Mary.'

b. John-ka phyenci-lɨl Mary- {eke-e / eke-lo, *lɨl}
Nom letter Acc Goal(1) Goal(2) Acc

pone-Ass-ta
send Past Stat
'John sent a letter to Mary.'

Inanimate Goal Marker

c. John-ka Seoul- {e / lo, lɨl} ka-Ass-ta
Nom Goal(1) Goal(2) Acc go Past Stat
'John went to Seoul.'

Even the inanimate Goal marker cannot be replaced by the Accusative marker in a transitive sentence where the Accusative marker is already present.

(9) Inanimate Goal Marker in Transitive Sentence

a. John-ka kong-lɨl cha- { e / lo, *lɨl} tenci-Ass-ta
Nom ball Acc car Goal(1) Goal(2) Acc throw Past Stat
'John threw a ball to a car.'

b. John-ka chong-lɨl pawi- { e / lo, *lɨl} sso-Ass-ta
Nom gun Acc rock Goal(1) Goal(2) Acc shoot Past Stat
'John shot a gun at a rock.'

c. John-ka phyənci-lɨl {Korea, Seoul}-{ e / lo, ?*lɨl}
Nom letter Acc Goal(1) Goal(2) Acc

pona-Ass-ta
send Past Stat
'John sent a letter to Korea/Seoul.'

Sentence (9c) shows that if the Goal Case is a country or a big city, the Accusative marker might replace the inanimate Goal marker. This judgment will depend on the individual speaker.

Let us recall that verbs of clear-cut unidirectional movement are required for the Source marker to be replaced by the Accusative marker. Interestingly enough, however, such verbs must be excluded in replacement of the Goal marker by the Accusative marker. If the Accusative marker replaces the Goal marker in a sentence which contains such verbs, then the sentence allows only the Source interpretation. The reason seems to be that such verbs are more closely affiliated with the Source Case than with the Goal Case. Such an interesting correspondence between Source and Goal markers will be further discussed in conjunction with ambiguity and anomaly of the relativized structures (cf. 4.3.).

(10) Verb of Unidirectional Movement

a. John-ka Seoul- {*e / lo, *lɨl} ttona-Ass-ta
Nom Goal(1) Goal(2) Acc leave Past Stat
'John left for Seoul.'

b. John-ka Seoul- {?e / lo, *lɨl} isa-ha-Ass-ta
Nom Goal(1) Goal(2) Acc move-house Past Stat
'John moved to Seoul.'

c. John-ka sikol- { e / lo, *lɨl} neli-A-o-Ass-ta
Nom country Goal(1) Goal(2) Acc come-down Past Stat
'John came down to the country.'

d. John-ka Honolulu- { ?e / lo, *lɨl} *olmki*-Ass-ta
Nom Goal(1) Goal(2) Acc move Past Stat
'John moved to Honolulu.'

Note that the two Goal markers are not necessarily in free variation. It seems to me that verbs of 'movement-toward' usually require the *lo*-Goal marker (cf. 2.1.).

Even the inanimate Goal marker is not necessarily replaceable by the Accusative marker in all instances.

(11) *Replaceable*

a. John-ka hakkyo- { e / lo, lɨl} ka-Ass-ta
Nom school Goal(1) Goal(2) Acc go Past Stat
'John went to school.'

Not Replaceable

b. John-ka namu- { e / lo, *lɨl} ka-Ass-ta
Nom tree Goal(1) Goal(2) Acc go Past Stat
'John went to a tree.'

The position of *hakkyo* 'school' in (11a) may be also filled with nouns such as *cip* 'house', *kyohoe* 'church', *pata* 'sea, beach', *tal* 'moon', *Korea*, *Seoul*, etc. The position of *namu* 'tree' in (11b) may be also filled with nouns such as *san* 'mountain', *pawi* 'rock' *pang* 'room', *mun* 'door', *sem* 'well', *mutem* 'tomb', etc. One might suggest that the dichotomy is based on the size of the referent of the noun. But *sea* and *mountain* which are both big behave differently. The fundamental reason is not known to me. In this study, I would (tentatively) regard nouns in the first type as exceptional.

Now let us summarize the above observations in table (12) for ease of reference. Case markers which are not replaceable by the Accusative marker in any type of construction are now shown in the table.

(12) Accusative Intrudability[15]

Marker	Possible	Impossible
Inanimate Goal	In intransitive sentence with no verb of unidirectional movement	(1) In transitive sentence (2) In intransitive sentence with verb of unidirectional movement
Animate Goal		In any type of sentence
Inanimate Source	In intransitive sentence with verb of unidirectional movement	(1) In transitive sentence (2) In intransitive sentence with no verb of unidirectional movement, or with Goal Case
Animate Source		In any type of sentence
Experiencer	If not moved from its original position	If moved from its original position
Agent	In causative sentence	In passive sentence (moved from its position)
Time(2)	With no constraints	

Now formalism of these observations is in order:

(13) Accusative Intrusion (opt)

$$\begin{array}{llll} \text{SD:} & X + NP - & \left\{\begin{array}{l} \text{Agt} \\ \text{Exp} \\ \text{Source [-Anim]} \\ \text{Goal [-Anim]} \\ \text{Time(2)} \end{array}\right\} & - Y \\ & \quad 1 & \qquad 2 & \quad 3 \end{array}$$

$$\text{SC: } 1, 2, 3 \Longrightarrow 1, \text{Acc}, 3$$

(14) Constraints on Accusative Intrusion

a-1.

$$\begin{array}{llll} \text{SD:} & X + A + O + & [NP - \underset{[+\text{Anim}]}{\text{Goal}}\ ]_{G} & + Y \\ & \qquad 1 & \qquad 2 & \quad 3 \end{array}$$

$$\text{SC: } 1, 2, 3 \Longrightarrow 1, \underset{[-\text{ Acc Intrusion}]}{2}, 3$$

a-2.

$$\left[\begin{array}{c} +\text{V} \\ +\text{Unidirectional} \\ \text{movement} \end{array}\right] \rightarrow [-\text{ Acc Intrusion}]$$

b-1.

$$\begin{array}{llll} \text{SD:} & X + A + (\ O\ ) + & [NP - \underset{[+\text{Anim}]}{\text{Source}}\ ]_{SO} & - \text{Goal} + Y \\ & \qquad 1 & \qquad 2 & \quad 3 \end{array}$$

$$\text{SC: } 1, 2, 3 \Longrightarrow 1, \underset{[-\text{ Acc Intrusion}]}{2}, 3$$

b-2.

$$\left[\begin{array}{c} +\text{V} \\ -\text{Unidirectional} \\ \text{movement} \end{array}\right] \rightarrow [-\text{ Acc Intrusion}]$$

Formalisms for the constraints above account for only constraints on the Source and Goal markers. Constraints on the Experiencer and Agent markers are not included, since they are different in kind from constraints on the Goal and Source markers. Constraints on the

Experiencer and Goal markers result from movement transformations which affect the surface word order. Such movement transformations include Pure-Passivization (opt), Psychmovement (opt), and Free Scrambling (opt). Since these movement transformations affect the unmarked word order on the one hand, and Accusative Intrusion presupposes the unmarked word order, they must be disjunctively ordered (cf. Chomsky-Halle, 1968). By postulating disjunctive ordering between Accusative Intrusion and movement transformations, we can account for constraints on the Experiencer and Agent markers.

(15) Disjunctive Ordering

Movement Transformations
{Pure-Passivization (opt)
Psych-Movement (opt)
Free Scrambling (opt)}
(Disjunctive)
Accusative Intrusion (opt)

At the beginning, I indicated that there is an implicational relation between Accusative Intrusion and Case Marker Deletion. To put the conclusion first,

(16) Implicational Relation between Accusative Intrusion and CMD

If a case marker is optionally replaceable by the Accusative marker (i.e. by Accusative Intrusion), then the case marker is also optionally deletable; but not necessarily vice versa.

The first part of the implication can be tested by examining the possibility that the Accusative marker which has replaced other case markers in all the sentences in this section is also deletable. In fact, all the Accusative markers in those sentences are optionally deletable. The second half of the implication means that there are some case markers which are optionally deletable but are not optionally replaceable by the Accusative marker. Such case markers are the Nominative and Time markers.

(17) Nominative Marker

a. John- {ka, ___, *lɨl} Mary-lɨl salangha-nɨn-ta
Nom Acc Acc love Indi Stat
'John loves Mary.'

Time Marker

b. John-ka Mary-lɨl illyoil- {e, ___, *lɨl} manna-Ass-ta
Nom Acc Sunday Tim Acc meet Past Stat
'John met Mary on Sunday.'

Since the case markers which are subject to Accusative Intrusion are also optionally deletable, we can simplify our formulation of Case Marker Deletion by reducing these case markers to the Accusative marker. We now formulate CMD:

(18) Case Marker Deletion (opt)

$$\text{SD:}\quad \underset{1}{X + NP} - \underset{2}{\begin{Bmatrix}\text{Nom}\\ \text{Tim}\\ \text{Acc}\end{Bmatrix}} - \underset{3}{Y}$$

$$\text{SC:}\quad 1,\ 2,\ 3 \Longrightarrow 1,\ \emptyset,\ 3$$

We must ask why accusative intrudability implies case-marker deletability. The scope of accusative intrudability is within that of case-marker deletability. It is clear that if the deletion of a case marker affected the original meaning of the sentence, the deletion would not be allowed. Since the deletion of case markers is allowed to the extent that the original meaning is retained, the replacement of case markers by the Accusative marker is also allowed to that extent. Both in Accusative Intrusion and in Case Marker Deletion, the deleted case markers do not seem to play a significant role in terms of signalling Case relations in a sentence. In other words, the effect of Accusative Intrusion is identical to that of the deletion of case markers in terms of the functional load of case markers.

In conjunction with the deletion of case markers, we must note characteristics of the 'case marker-full' sentence, the 'case marker-null' sentence, and the 'delimiter-full' sentence. By the first type of sentence, I mean the sentence whose NP's retain case markers on the surface. The second type refers to the sentence whose NP's have their case markers deleted. The third type refers to the sentence whose NP's contain only delimiters with no case markers.

One characteristic of the case marker-full sentence is the possibility of free scrambling of the major constituents (cf. Ross, 1967:41-45). Major constituents here refer to NP's, and the verb plus its modality. Examples are shown in the following sentences:

(19) a. John-ka Mary-lɨl manna-Ass-ta (Basic)
Nom Acc meet Past Stat
'John met Mary.'

b. Mary-lɨl John-ka manna-Ass-ta

c. John-ka manna-Ass-ta Mary-lɨl

d. Mary-lɨl manna-Ass-ta John-ka

e. manna-Ass-ta John-ka Mary-lɨl

f. manna-Ass-ta Mary-lɨl John-ka

The possibility of free scrambling is wholly due to the presence of a case marker for each NP. Some speakers might claim that the sentence whose verb plus the modality is moved from the sentence-final position is not acceptable. But my speech allows such sentences in colloquial usage. The reason for the possibility of free scrambling in the case marker-full sentence is that information on Case relationship is retained on the surface by the case markers.

Now we formulate Free Scrambling:

(20) Free Scrambling (opt)[16]

$$\begin{array}{lcccccc} \text{SD:} & Q & - [NP + R + K + U]_C & - W - & [NP + X + K + Y]_C & - Z - & V + M \\ & 1 & 2 & 3 & 4 & 5 & 6 \end{array}$$

$$\text{SC:}\ 1, 2, 3, 4, 5, 6 \Longrightarrow \left\{\begin{matrix} 1, 2, 3, 6, 5, 4 \\ 1, 4, 3, 2, 5, 6 \\ 1, 4, 3, 6, 5, 2 \\ 1, 6, 3, 4, 5, 2 \\ 1, 6, 3, 2, 5, 4 \end{matrix}\right\}$$

where: K's in 2 and 4 must not be the same case marker.

Since this rule can only apply to NP's marked for Case in the surface structure, it must be ordered after any kind of deletion of case markers, and it cannot precede Case Marking of the last cycle. This constraint requires Free Scrambling to belong to the post-cyclical rules. Among the post-cyclical rules, Modality Lowering (cf. 3.1.) must precede Free Scrambling, since Free Scrambling requires the verb and the modality to form a single constituent. Since Affected Case Marker Deletion (cf. 2.4.) and Case Marker Deletion (cf. 2.5.) involve the deletion of case markers, Free Scrambling must be the bottom rule of the post-cyclical rules. Let us show the ordering of the post-cyclical rules below:

(21) Post-cyclical Rules

1. Modality Lowering (obl)
2. Case Marker/Delimiter Permutation (opt)
3. Affected Case Marker Deletion (obl)
4. Case Marker Deletion (opt)
5. Free Scrambling (opt)

One characteristic common to the case marker-null sentence and the delimiter-full sentence is that the case markers in both types of sentence are deleted. Observe the following sentences:

(22) Case Marker-null Sentence

a.

John-	Mary-	manna-Ass-ta
A	O	meat

'John met Mary.'

b.

John-	Mary-	hankuk-mal-	kalɨchi-Ass-ta
A	E	O	teach

'John taught Mary Korean.'

c.

* John-	thop-	namu-	pe-Ass-ta
	saw	tree	cut
A	I	O	

'John cut a tree with the saw.'

(23) Delimiter-full Sentence

a.

John-{nɨn, to, ya, na, lato, ...}	Mary-{nɨn, to, ya, na, na, lato, ...}
Z-lim's	Z-lim's

manna-Ass-ta
meet
'John met Mary.' (to be modified with the meaning of the individual delimiter)

b. John-{nɨn, to, ya, na, lato, ...} Mary-{nɨn, to, ya,
na, lato, ... }
Z-lim's Z-lim's

hankukmal- {nɨn, to, ya, na, lato, ...} kalɨchi-Ass-ta
Korean Z-lim's teach
'John taught Mary Korean.'

c. * John- {nɨn, to, ya, na, lato, ...} thop- { nɨn, to, ya,
na, lato, ...}
Z-lim's saw Z-lim's

namu- {nɨn, to, ya, na, lato, ...} pe-Ass-ta
tree Z-lim's cut
'John cut a tree with the saw.'

Sentence (22c) and its corresponding sentence (23c) are ungrammatical, since the Instrument marker is deleted. Note that the grammaticality vs. the ungrammaticality of case marker-full sentences (22) correspond to that of delimiter-full sentences (23). This correspondence is not accidental at all. If we recall that the delimiter-full sentence is identical to the case marker-null sentence in the light of the deletion of case markers, any apparent peculiarity will disappear. This correspondence is related to the fact that delimiters are not case markers at all. Delimiters cannot function as case markers. Let us show this observation in the following statement:

(24) Correspondence between NP only with Delimiter and NP with no Case Marker

If an NP occurs only with delimiter(s), the syntactic status of the NP is identical to the NP with no case marker. In both cases, case markers are deleted.

Footnotes to Chapter 2

[1] There are instances where *e*-Goal and *lo*-Goal result in different meanings:

(1) a. John-ka ttal-lɨl hakkyo-*e* pone-Ass-ta
Nom daughter Acc school Goal send Past Stat
(1) 'John sent his daughter to school.' (i.e. The daughter became a student.)
(2) 'John sent his daughter to school' (for some business).
b. John-ka ttal-*lɨl* hakkyo-*lo* pone-Ass-ta
Goal
'John sent his daughter to school' (for some business).

[2] In my speech, *hanthe* and *hanthese* are used only for an animate NP. But this restriction seems to be subject to linguistic change. I once noticed a ten-year old boy who uttered (1a), but my speech chooses (1b):

(1) a. tal-ka ciku-*hanthese* kakkaw-ta
moon Nom earth from near Stat
'The moon is near the earth.'
b. tal-ka ciku-*ese* kakkaw-ta

[3] Some grammarians regard both *ka* and *nɨn* (cf. Japanese *ga* and *wa*) as the subject marker, but this study will show that *nɨn* (cf. Japanese *wa*) is not a case marker but a delimiter.

[4] Householder-Cheng (1971) also observe a similar phenomenon in Chinese and Japanese, which they describe in terms of 'universe' and 'scope'. But they discuss only one type of the macro-micro relation.

[5] Note Carroll's (1966:134) definition: a *token* is a specific instance of a sign usage while a *type* is an abstract class of such tokens. Reichenbach's (1947:4) definition: the individual sign is called a *token*. Ziff's (1960:12) definition: we can say that 'a cow' uttered at one time and 'a cow' uttered at another time belong to one and the same utterance type, and they are two utterance tokens of the one utterance type.

[6] Inoue (1969:94-97) also uses the term *delimiter*. But she excludes *wa* (cf. Korean *nɨn*) and *mo* (cf. Korean *to*) from the delimiter. This study, however, includes them. Ulithian, a Micronesian language, also has particles which are similar to Korean (and Japanese) delimiters (cf. Sohn, 1969:418).

[7] Kuroda (1965:82) also notes this point. It seems to me that the exact senses of delimiters may be felt only by native speakers

of the language.

[8] The Y-delimiter pakke 'nothing but/nobody but' is a negative polarity item, while man 'only' may be used in a negative and in an affirmative. Etymologically pakke is derived from pakka 'outside' or 'beyond that', but pakke as a delimiter is idiomatized. Neg-Transportation is not allowed in a construction which contains pakke:

(1) a. John-nɨn (caki-ka 5 dollar-pakke əps-ta)-ko
Z-lim self Nom not-have Stat quote
sengkak-ha-nɨn-ta
think Indi Stat
'John thinks that he has nothing but 5 dollars.'

b. * John-nɨn (caki-ka 5 dollar-pakke iss-ta)-ko
have
sengkak-ha-ki ani ha-nɨn-ta
think Comp not do Indi Stat

The delimiter pakke behaves differently from the delimiter man in interaction between case markers and delimiters. The Japanese counter-part sika behaves the same as pakke (cf. Inoue, 1969:95). For negative polarity items in English, see Baker (1970) and Schmerling (1971).

[9] It is a matter of course that there are semantic selectional restrictions among types of delimiters. For example, the Y-delimiter man 'only' is not compatible with the Z-delimiter to 'also'. Furthermore, there are selectional restrictions between delimiters and NP's. For instance, mata 'every' is not compatible with pronouns, except for the generic use of ce 'one' (i.e. ce-mata 'every one'). I do not deal with these phenomena in this study. For details, see Yang (forthcoming c).

[10] Note the history of the evolving views on whether transformations may or may not change meaning. The following is a short sketch of it. Katz-Fodor (1963): most T's do not change meaning. Katz-Postal (1964): no T's change meaning. Chomsky (1965): no T's change meaning (except for stylistics). Weinreich (1966): no T's change meaning. Jackendoff (1969), Dougherty (1969), Partee (1970), and Chomsky (1971): T's may change meaning. Generative semanticists still hold the view that T's do not change 'truth-value' synonymy. The lexicalists' view that T's may change meaning is connected with their use of 'surface structure semantic interpretation rules' (cf. Chomsky, 1969). For the discussion of synonymity itself, see Goodman, "On Likeness of Meaning." and Mates, "Synonymity." Both are in Linsky (1952).

[11] For the distinction between presupposition, entailment, and implication, see Austin (1962:39-52). For further discussions on presupposition and related matters, see papers in Fillmore-Langendoen (1971), Karttunen (1971), and J. Schachter (1971).

[12] It is interesting to note the morphological correspondence between Korean to : lato and Japanese mo : demo.

[13] Kiefer (1970:131-132) states that a solution by a filtering transformation (which does not perform other tasks except for filtering out the wrong deep structures) seems quite counter-intuitive, and that attachment transformations are against the principle that no transformational rules should work in the base.

[14] Some examples of I-Epenthesis are: kilton-i (man's name), pong-i (man's name) or 'an imaginary bird', holang-i 'tiger', koyang-i 'cat', kekul-i 'frog', talpheng-i 'snail', tukkəp-i 'toad', kəpuk-i 'turtle', ... Another thing which must be noted is the form sə which is optionally suffixed to the nominative marker if the NP is pure-Korean human numerical counter from 1 to 10. But 1 takes the form honca instead of hana. For example, honca-se 'one man alone', tul-i-se 'two men', yəl-i-se 'ten men', *yəl-tul-i-se 'twelve men', ...

[15] Accusative intrudability (i.e. replaceability) will be related to nominative intrudability (i.e. replaceability) in 3.5.

In some intransitive constructions, the inanimate goal and source markers are not replaceable by the accusative marker:

(1) a. palam-ka namccok- {lo, *lɨl} pu-nɨn-ta
wind Nom south Goal Acc blow Indi Stat
'The wind blows to the south.'
b. palam-ka namccok- { ese, *lɨl } pu-nɨn-ta
Source Acc
'The wind blows from the south.'

Certain NP's have different meanings when they occur with the inanimate goal and accusative markers:

(2) a. Mary-ka si-cip-e ka-nɨn-ta
Nom husband's house Goal go Indi Stat
'Mary goes to the husband's house (from her own house).'
b. Mary-ka si-cip-lɨl ka-nɨn-ta
Acc
'Mary gets married.'

However, when si-cip is replaced by some synonyms such as si-tek or si-ka (these are Sino-Korean vocabulary), Accusative Intrusion applies:

(3) a. John-ka sam-chɨng-e oll-A-ka-Ass-ta
Nom 3rd floor Goal climb Past Stat
'John want up to the third floor.'

b. John-ka sam-chɨng-ɨl oll-A-ka-Ass-ta
Acc
(1) 'John went up to the third floor.'
(2) 'John passed through the third floor.'

[16] Free Scrambling is formulated on the assumption that the NP does not contain a quantifier. If the NP contains a quantifier, Free Scrambling may change meaning.

Chapter 3

Complementation

3.1. Transformations Involved in Complementation

In this section, I will introduce transformations which will make the discussions in the subsequent parts easier. Rules to be introduced in this section are chiefly involved with complementation. Motivations and theoretical issues involved with transformations will be discussed.

One of the well-motivated rules is Equi-NP Deletion, which deletes the constituent subject if it is coreferential with the matrix subject. Equi-NP Deletion is operative in all verbal complement constructions and in KI- and ƗM-nominal complement constructions.

(1) Equi-NP Deletion (obl)[1]

$$\text{SD:}\quad \underbrace{[\text{NP}_j + \text{K}]_C}_{1} + \text{W} - [\ \underbrace{[\text{NP}_j + \text{K}]_C}_{2} - \underbrace{\text{X}]_S + \text{Comp} + \text{Y} + \text{V} + \text{Z}}_{3}$$

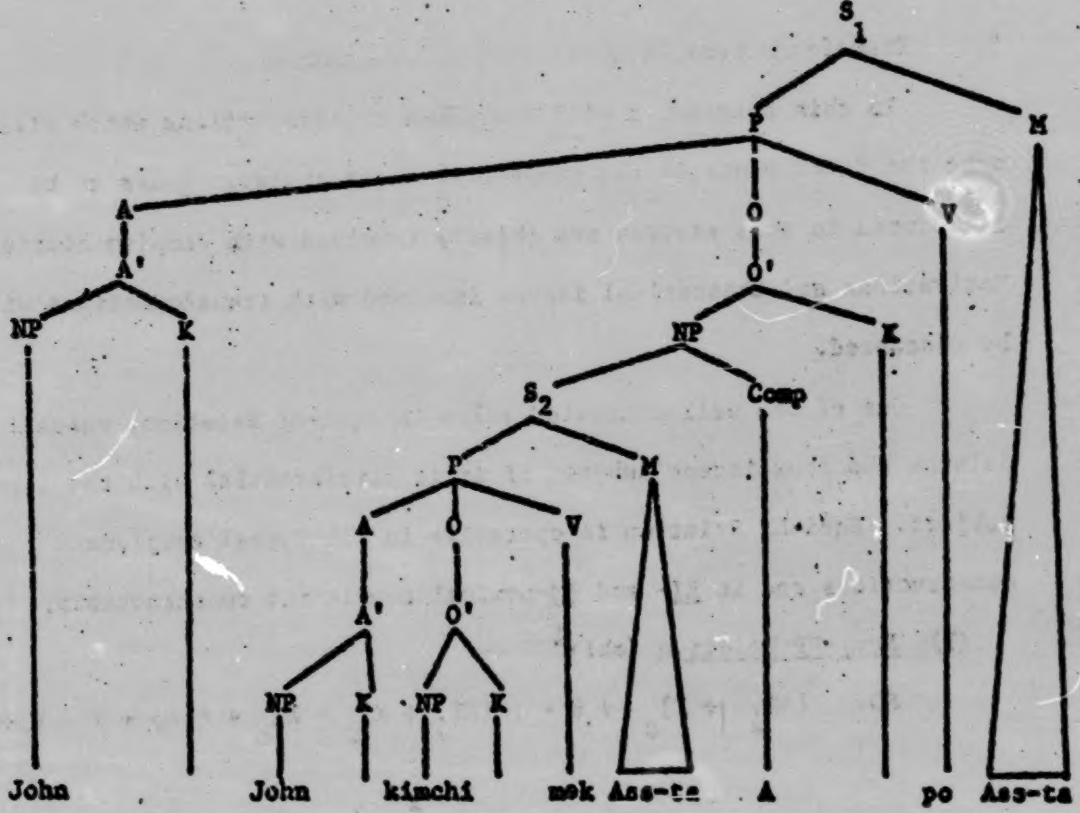
$$\text{SC:}\quad 1,\ 2,\ 3 \rightarrow 1,\ \emptyset,\ 3$$

where: Comp refers to any V-Comp, KI-N-Comp or ƗM-N-Comp

For illustration of this rule, we will consider the derivation of sentence (2). Subscripts are added to S's in the tree diagram for ease of reference. Since I discussed in 1.2. that complementizers must be represented in the base, I will not repeat the discussion here.

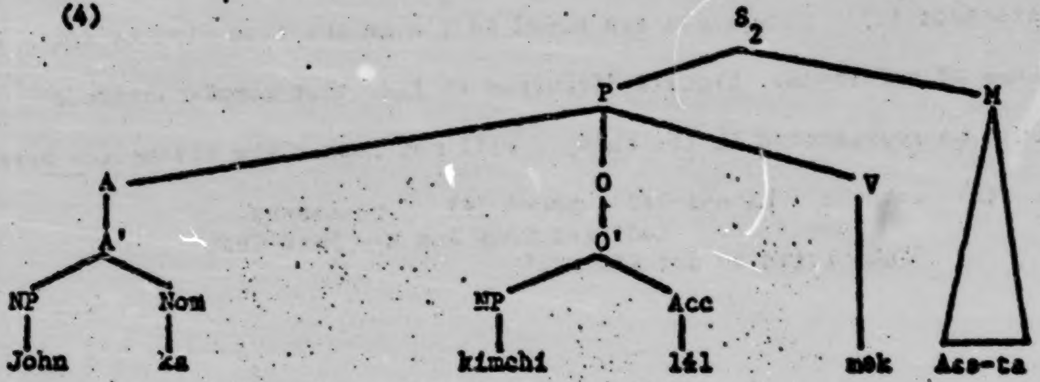
(2) John-ka kimchi-lɨl mək-A-lɨl po-Assʌnta
Nom Acc eat Comp Acc try Past Stat
'John tried to eat kimchi.'

(3) (underlying)


S1
P
M
A
O
V
A'
O'
NP
K
NP
K
S2
Comp
P
M
A
O
V
A'
O'
NP
K
NP
K
John
John
kimchi
mək
Ass-ta
A
po
Ass-ta

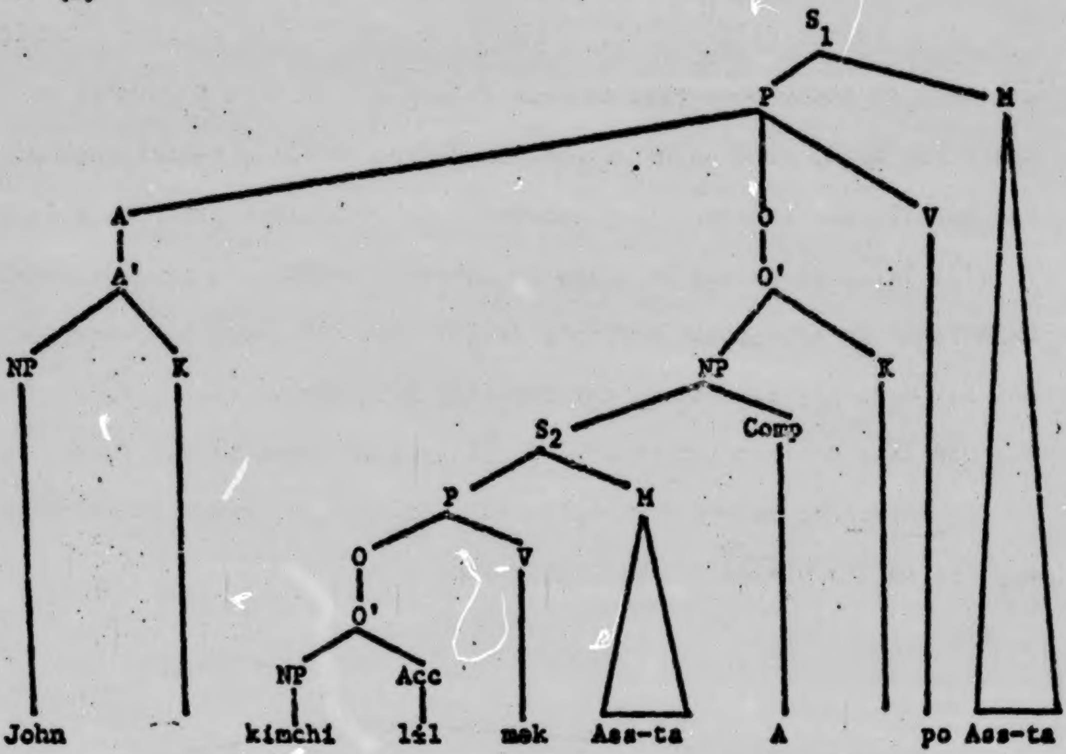
On the S2-cycle, we must apply Normal Case Marking. NCM-a replaces K under Agent by Nom, and NCM-b replaces K under Object by Acc, yielding the following tree structure.

(4)


S2
P
M
A
O
V
A'
O'
NP
Nom
NP
Acc
John
ka
kimchi
lɨl
mək
Ass-ta

On the S1-cycle, Equi-NP Deletion deletes the subject NP of the S2, yielding the following tree structure.

(5)


S_1
P
M
A
A'
NP
K
O
O'
V
NP
K
S_2
Comp
P
M
O
V
O'
NP
Acc
John
kimchi
lɨl
mek
Ass-ta
A
po
Ass-ta

At this point of the derivation, we need to introduce Modality Deletion. On the surface, the modality constituent of the constituent sentence in the verbal complementation construction is not realized.

(6) Modality Deletion (obl)

SD: $X + [Y - M]_S - Z + M$

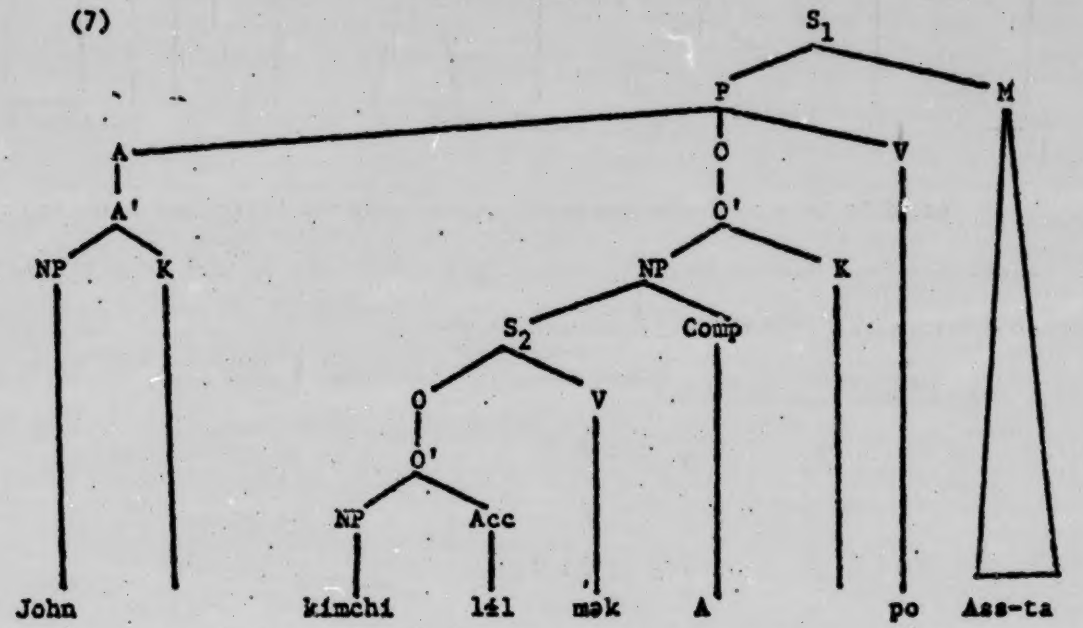
$1 \quad\quad 2 \quad\quad 3$

SC: $1, 2, 3 \Longrightarrow 1, \emptyset, 3$

Modality Deletion is assumed to include the condition that the deleted modality must be non-distinct from the matrix modality except for tense. If this condition is not satisfied, the rule cannot apply; the deep structure is not well-formed. As we will see in this section, Modality Deletion is fully operative for all V-Comp's. In some N-Comp's, on the other hand, some adjusted portion of the modality constituent of the constituent sentence is preserved. In order to capture this fact, we will later postulate Modality Adjustment, which must precede Modality Deletion. In some other N-Comp's (e.g. NɨN-KəS-N-Comp, KO-N-Comp, etc.), neither Modality Adjustment nor Modality Deletion is relevant, since the modality constituent of the constituent sentence is fully retained.

Returning to the derivation of sentence (2), Modality Deletion applied to (5) yields the following tree structure.

(7)



At this point, I will make an important assumption. This assumption is concerned with verbal compounding, which is based on verbal complementation.[2] By verbal compounding, I mean the process of combining a matrix verb and a constituent verb into a simple compound verb. The following are some examples of compound verbs:

(8) a.

Constituent V	V-Comp	K	Matrix V	Compound V
ka 'go'	ko	lɨl Acc	siph 'desirous'	ka-ko-lɨl-siph 'desirous of going'
ca 'sleep'	ko	lɨl	iss 'exist'	ca-ko-lɨl-iss 'is sleeping'
po 'see'	A	lɨl	po 'try'	po-A-lɨl-po 'try to see'
ilk 'read'	A	lɨl	cu 'give'	ilk-A-lɨl-cu 'read it for somebody'
sal 'live'	ke	lɨl	toe 'become'	sal-ke-lɨl-toe 'become alive'
ul 'cry'	ke	lɨl	tu 'leave it as it is'	ul-ke-lɨl-tu 'not prevent somebody from crying'

b. cuk- A- lɨl- poli- A- lɨl- po- ko- lɨl-
die Comp Acc finish-up Comp Acc try Comp Acc

siph- A- lɨl- ci- ke- lɨl- tu
desirous Comp Acc become Comp Acc leave-it-as-it-is

'let somebody come to want to try to die'

Examples (8a) show that any type of V-Comp can participate in forming a compound verb. Example (8b) shows that a considerable length of verbal compounding is possible by combining different as well as the same types of V-Comp. Our concern here is to provide two types of justification for verbal compounding. One type of justification is concerned with the assumption that the examples cited above are compound verbs, and the other type of justification is concerned with the assumption that verbal compounding is based on complementation.

The examples cited above are compound verbs. Semantically, they form a nucleus totality (i.e. an organic whole). For example, if the verb of the constituent sentence (we will call it the constituent verb) and the verb of the matrix sentence (we will call it the matrix verb) have the polar opposite values of a semantic feature, then the value of the constituent verb assimilates to the opposite value of the matrix verb. Consider the following examples:

(9) a. Mary-ka John-eke kiss-lɨl *tang-ha-* Ass-ta
Nom Agt Acc adversely receive Past Stat

'Mary got (adversely) kissed by John.'

b. Mary-ka [John-eke kiss-lɨl *tang-ha*] - A-lɨl *po*-Ass-ta
Comp Acc try Past Stat

'Mary tried to be kissed by John.'

(9a) is a type of passive sentence, where the verb *tang-ha* 'adversely receive' always has the semantic feature [+Adverse to subject]. Let us call this type of passive the *tang-ha*-passive.[3] The *tang-ha*-passive is mainly restricted to certain noun-*ha* verbs, e.g. *moyok-ha* 'insult', *hyeppak-ha* 'threat', *pinan-ha* 'blame', *kongkyek-ha* 'attack', *saki-ha* 'cheat', *kiss-ha* 'kiss', *delete-ha* 'delete', etc. Korean nativizes English verbs as nouns. On the other hand, the matrix verb *po* 'try' seems to always have the semantic feature [-Adverse to subject]. In other words, the constituent verb *tang-ha* always has the reading which is adverse to the subject, whereas the matrix verb *po* always has the reading of benefit to the subject, since the verb *po* 'try' is used only when the animate NP does something on a voluntary basis. When they form a compound verb *tangha-ʌ-lɨl-po*, the semantic feature of the constituent verb [+Adverse to subject] assimilates to the semantic feature of the matrix verb [-Adverse to subject], resulting in the semantic feature [-Adverse to subject] in the compound verb *tangha-ʌ-lɨl-po*. Let us show this observation informally as follows:

(10) a. *tang-ha* [+Adverse to subject] or [-Benefit to subject]
b. *po* [-Adverse to subject] or [+Benefit to subject]
c. *tangha-ʌ-lɨl-po* [-Adverse to subject] or [+Benefit to subject]

The above discussion and illustration show that the value of a semantic feature of the lower verb assimilates to the value of the same semantic feature of the higher verb. Thus, when two features are oppositely specified, the feature of the compound verb can be predicted from the feature of the higher verb. The predictability of the feature of the compound verb can be accounted for by the feature assimilation rule as follows:

(11) *Feature Assimilation in Compound Verb* (obl)

$$\text{SD:}\quad \underset{1}{U} + \underset{2}{[W - \underset{[\alpha F_x]}{V}} - \underset{3}{X]_S + Y} - \underset{4}{\underset{[-\alpha F_x]}{V}} - \underset{5}{Z}$$

$$\text{SC:}\quad 1, 2, 3, 4, 5, \Longrightarrow 1, \underset{[-\alpha F_x]}{2}, 3, 4, 5$$

Another example is related to the equi-subject constraint. As we will see in 3.3., verbs of self-judgment are subject to the equi-subject constraint. However, when they form compound verbs together with the pro-verb ha, the compound verbs are no longer subject to this constraint. This phenomenon is not accidental, since the matrix verb ha is not subject to the equi-subject constraint. A certain semantic property of the constituent verb is assimilated to a certain opposite semantic property of the matrix verb. For details, see 3.2. and 3.3.

Syntactically, the examples cited above are 'movement groups', by which I mean that the matrix verb and the constituent verb under discussion move together in some movement transformations such as Free Scrambling (cf. 2.2.):

(12) Free Scrambling

a.

John-ka	kimchi-lɨl	mək-A-lɨl po-Ass-ta	'John tried to eat kimchi.'
Nom	Acc	eat Comp Acc try	
1	2	3	

b. 1, 3, 2 c. 2, 1, 3

d. 2, 3, 1 e. 3, 1, 2

f. 3, 2, 1

(13) Free Scrambling

a.

John-ka	kimchi-lɨl	mək-A-lɨl	po-Ass-ta
1	2	3	4

b. ?* 1, 3, 2, 4 c. ?* 1, 4, 2, 3

d. ?* 2, 1, 4, 3 e. ?* 2, 4, 1, 3

f. ?* 3, 1, 2, 4　　　g. ?* 3, 2, 1, 4

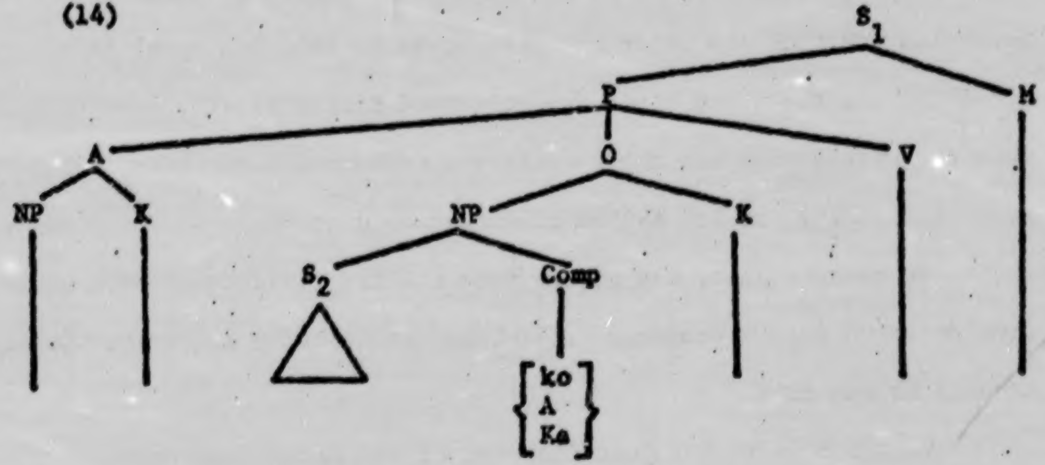
h. ?* 4, 1, 2, 3　　　i. ?* 4, 3, 1, 2

As we will see shortly, on the surface the modality is attached to the verb (cf. Modality Lowering). The scrambled sentences (12) show that when the matrix verb and the constituent verb move together, any scrambled order of the major constituent (i.e. NP's and verb) is possible. On the other hand, the scrambled sentences (13) show that when the matrix verb and the constituent verb move separately, all scrambled orders are impossible or extremely unnatural.

To recapitulate, the matrix verb and the constituent verb under consideration form a compound verb which semantically and syntactically behaves as one unit.

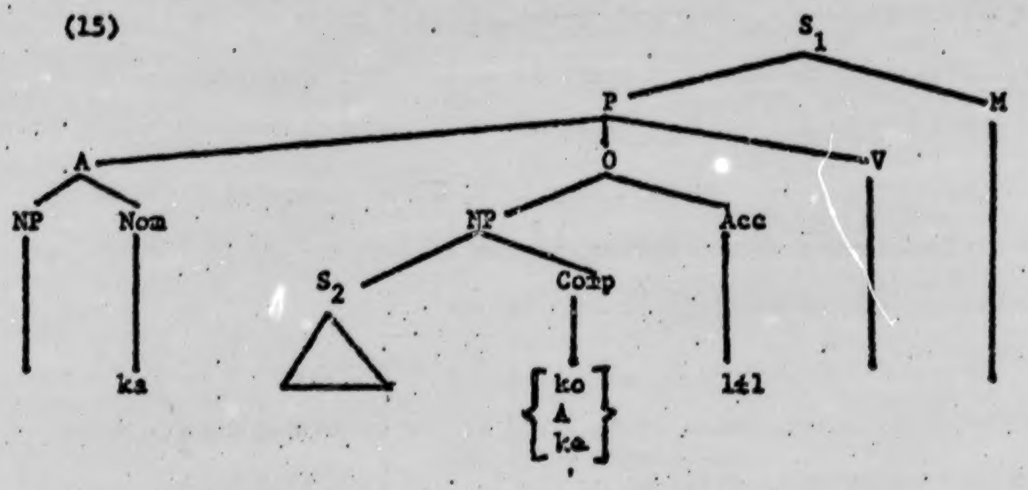
We now turn to the justification of the claim that verbal compounding is based on complementation, rather than on derivation in the lexicon. If we regard the compound verbs under consideration as idiosyncratically composed by derivational rules in the lexicon (cf. Starosta, 1971b), then there is no explanation for the existence of the Accusative marker *lɨl* suffixed to each verbal complementizer (cf. examples in 8). On the other hand, if we regard compound verbs as derived from complementation, we can explain the existence of the Accusative marker suffixed to each verbal complementizer in a systematic manner. In other words, the sentential complement under discussion is in the Object Case, which is realized as Acc by Normal Case Marking; Acc in turn is to be replaced by the lexical item *lɨl* through lexical insertion. These processes will be shown shortly when we resume our derivation of sentence (2). Note that we ignore the instance when the Object Case is the subject of a sentence and instances in which Special Case Marking is required. Before resuming our derivation, for ease of readability, we will schematically show how the Accusative marker lɨl is inserted.

(14)


S1
P
M
A
O
V
NP
K
NP
K
S2
Comp
ko
A
Ka

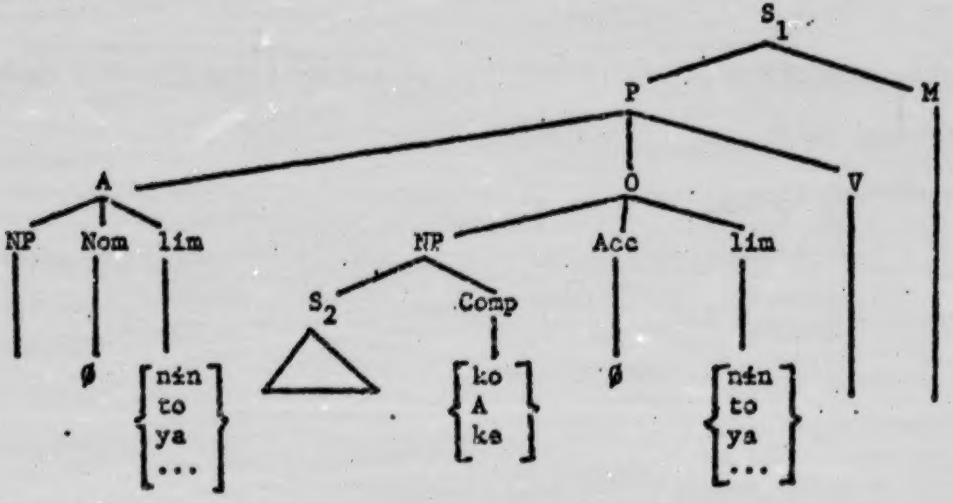
NCM-a replaces K under Agent by Nom, and NCM-b replaces K under Object by Acc, yielding the tree structure in (15).

(15)


S1
P
M
A
O
V
NP
Nom
ka
NP
Acc
lɨl
S2
Comp
ko
A
ka

This tree shows how the Accusative marker lɨl is suffixed to each verbal complementizer on the surface. If we had chosen delimiter(s) from PS (5) we would have obtained various outputs through Affected Case Marker Deletion (cf. 2.4.) as shown in (16).

(16)



If the proposed view of verbal compounding is correct, then we are allowed to combine the matrix verb and the constituent verb under a single node. In order to form a compound verb, I postulate Predicate Raising (cf. McCawley, 1968a). Predicate Raising picks up the constituent verb and adjoins it to the matrix verb. As we saw in the examples in (8), the complementizer is infixed between the constituent verb and the matrix verb. For this reason, we must also raise the complementizer. The examples also show that the Accusative marker is suffixed to the complementizer. In order to account for this fact, we must also raise the Object Case node. Considering these points, we can formulate Predicate Raising as follows:

(17) Predicate Raising (obl)

SD: $X + [\ [\ [Y - V]_S - \text{Comp}]_{NP} - K]_O - V - Z$

$\quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6$

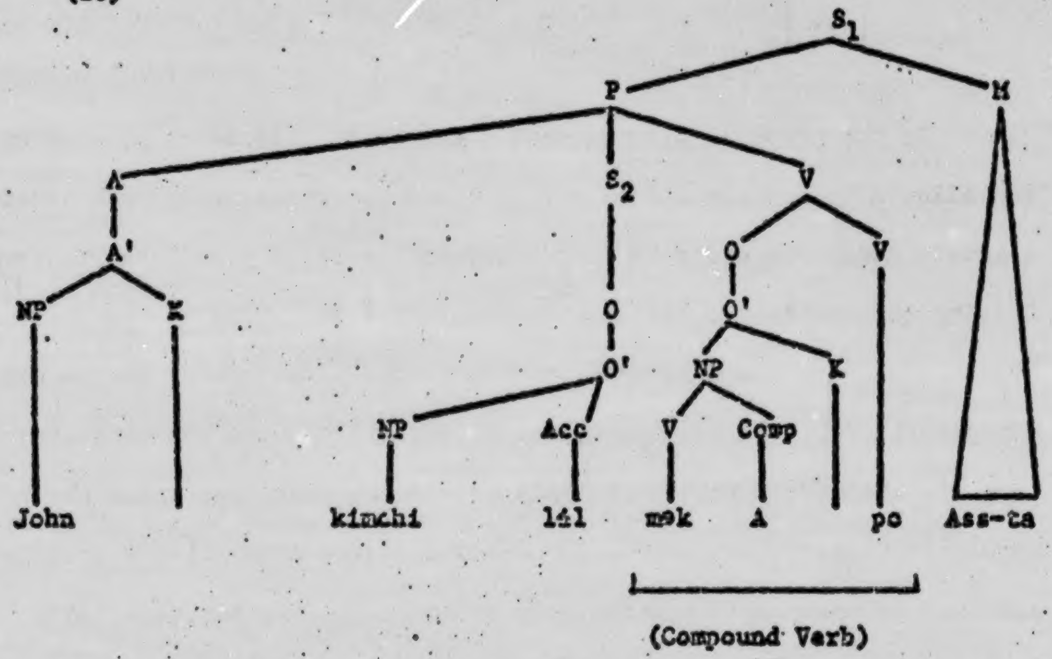
SC: $1, 2, 3, 4, 5, 6 \quad 1, \emptyset, \emptyset, \emptyset, [[2 + 3]_{NP} + 4]_O \ \#5, 6$

where: Comp refers to V–Comp

Notice that the modality constituent of the embedded sentence is not specified in the SD, since Modality Deletion precedes Predicate Raising, and the modality constituent was erased.

Resuming our derivation of sentence (2), P-marker (7) meets the SD of Predicate Raising. Predicate Raising applied to (7) yields the following tree structure.

(18)


S_1
P
M
A
S_2
V
A'
O
V
NP
K
O
O'
O'
NP
K
NP
Acc
V
Comp
John
kimchi
lɨl
mək
A
po
Ass-ta
(Compound Verb)

Given the assumption that a sentence requires at least one predicate and at least one argument, we now need to make some adjustments to the P-marker, since the movement of the predicate from the lower sentence results in 'non-sentencehood' of the constituent sentence. This statement must not be interpreted as referring to identity deletion. I claim that argument(s) in the constituent sentence must also be raised to the matrix sentence if and only if Predicate Raising applies. In other words, my claim is that Predicate Raising must necessarily entail Argument Raising.

I formulate Argument Raising as follows:

(19) Argument Raising (obl) (Iterative)

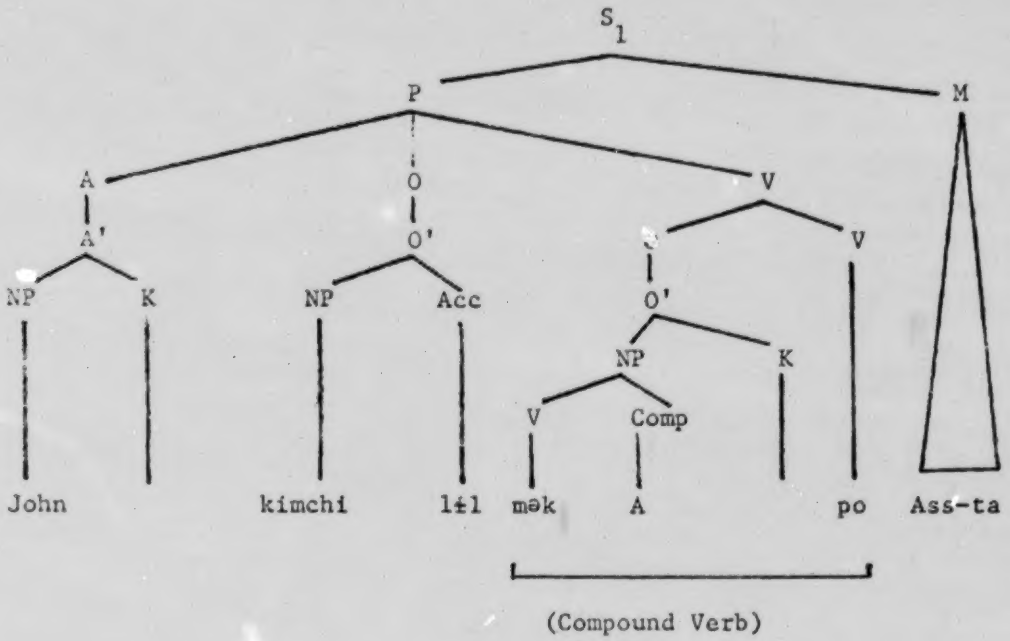
$$\begin{array}{lllll} \text{SD:} & X & - [Y - & [NP + K]_C\ ]_S & - V + Z \\ & 1 & 2 & 3 & 4 \end{array}$$

$$\text{SC:}\ 1, 2, 3, \emptyset, 4 \Longrightarrow 1, 2, \emptyset, 3, 4$$

This rule is obligatory, and since it applies to any embedded sentence which contains no verb, it always applies when Predicate Raising applies, and never otherwise.

Argument Raising applied to (18) yields the following structure.

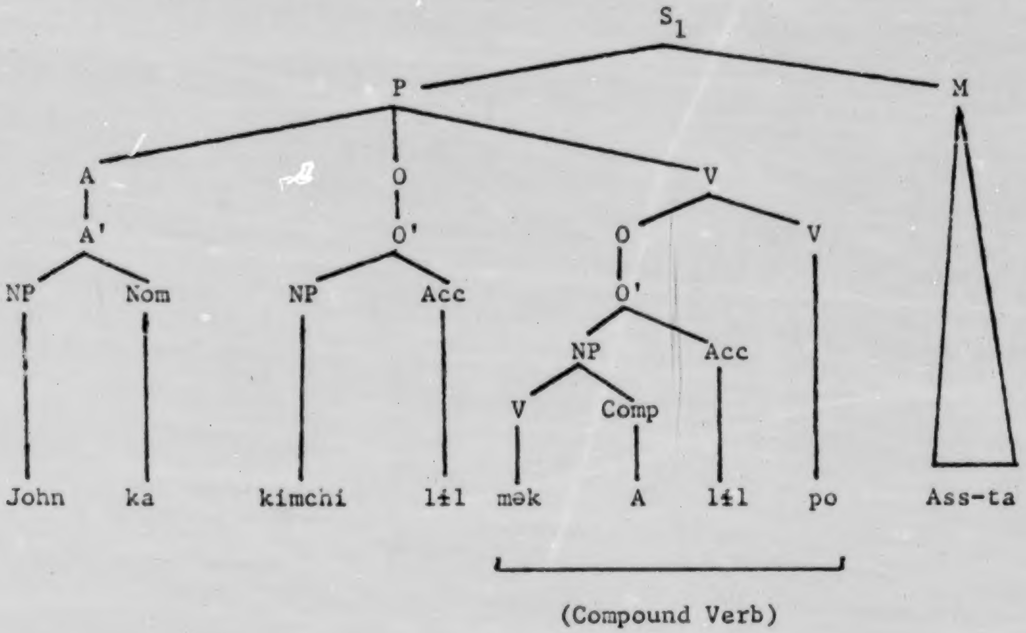
(20)



A comparison of P-marker (18) and P-marker (20) shows that the only difference after Argument Raising is the deletion of the node S2. Tempted by this observation, one might argue that we can do without Argument Raising if we invoke the principle of tree pruning (cf. Ross, 1967a). This proposal looks attractive. However, it is inadequate, since we have no guarantee of having only one argument (i.e. NP) in the constituent sentence. In P-marker (20) notice that S1 contains two Object Cases. This might look like a violation of the 'one-instance-per-clause' principle (cf. Fillmore, 1971:248), which means that one and the same Case cannot occur more than once in a simplex sentence. P-marker (20), however, does not violate the one-instance-per-clause principle, since Fillmore's principle applies to deep structures, and (20) is not an underlying structure but a derived structure.

The next rule is Normal Case Marking. NCM-a replaces K under Agent by Nom and NCM-b replaces K under Ojbect by Acc, yielding the following tree structure

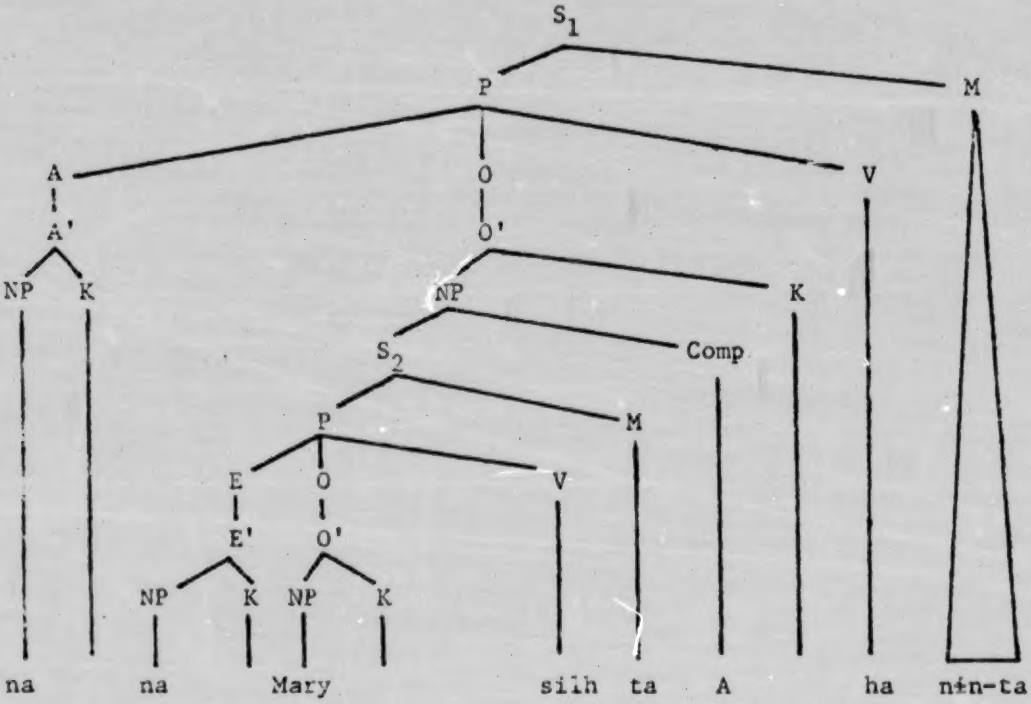
(21)


S_1
P
M
A
O
V
A'
O'
O
V
NP
Nom
NP
Acc
O'
NP
Acc
V
Comp
John
ka
kimchi
lɨl
mək
A
lɨl
po
Ass-ta
(Compound Verb)

In conjunction with Argument Raising, we must note a significant fact which results from the cyclical application of case marking. There are instances where the NP which was assigned the Nominative marker on the lower cycle, is raised to the higher sentence by means of Argument Raising. In such a case, the Nominative marker which was raised together with the raised NP in the derived sentence may not be retained, simply because the raised Nominative marker may conflict with the Nominative marker of the subject NP. Consider the following sentence:

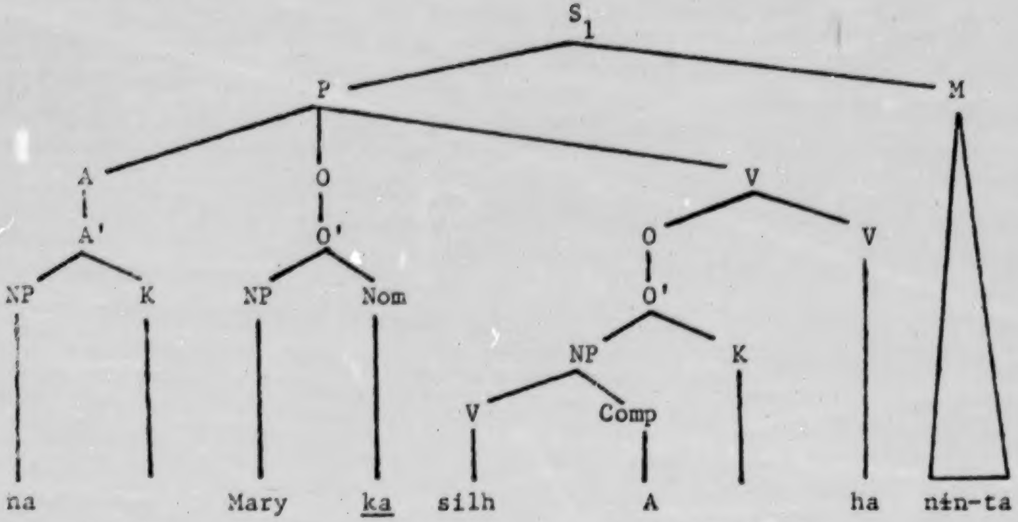
(22) na-ka Mary-lɨl silh- A- lɨl- ha-nɨn-ta
I nom Acc not-fond Comp Acc do Indi Stat
'I dislike Mary.'

(23) (underlying)


S_1
P
M
A
O
V
A'
O'
NP
K
NP
K
S_2
Comp
P
M
E
O
V
E'
O'
NP
K
NP
K
na
na
Mary
silh
ta
A
ha
nɨn-ta

NCM's on the S2-cycle, Equi-NP Deletion, Modality Deletion, Predicate Raising, and Argument Raising on the S1-cycle will yield the following structure.

(24)



Notice that the raised Object Case has the Nominative marker ka, which is supposed to have been assigned on the S2-cycle by Special Case Marking (to be specified in 3.3.). But the final output of the sentence under consideration requires NP Mary to have the Accusative marker lɨl instead of the Nominative marker ka. In an instance like this, we must nullify the raised Nominative marker, keeping the raised Case node. After the raised Nominative marker is erased, we must apply case marking again on the new cycle. In order to account for this phenomenon, I postulate Nominative Nullification as follows:

(25) Nominative Nullification (obl)

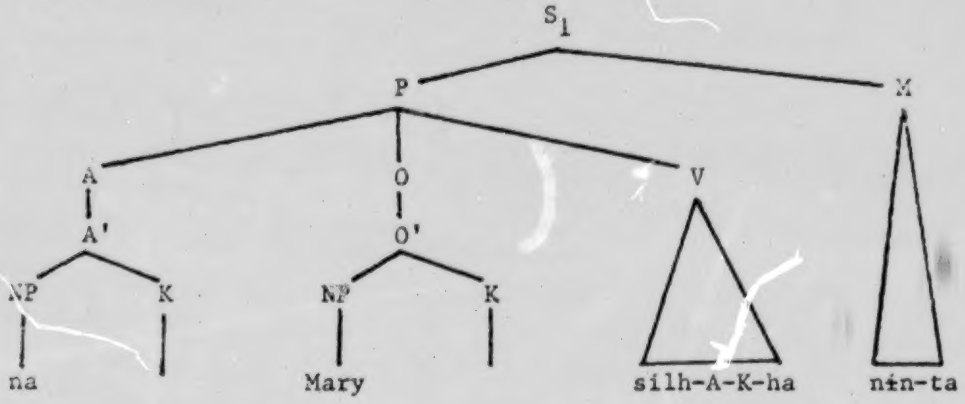
SD: $[NP + K]_C \; - \; [NP - Nom]_C \; - W + [X + V]_V \; + Y$

$\quad\quad 1 \quad\quad\quad\quad 2 \quad 3 \quad\quad\quad\quad 4$

SC: $1, 2, 3, 4 \Longrightarrow 1, 2, K, 4$

Nominative Nullification applied to (24) yields the following tree structure.

(26)



Now Normal Case Marking will assign the correct case markers. NCM-a replaces K under Agent by Nom, which in turn is replaced by ka. NCM-b replaces K under Object by Acc, which in turn is replaced by lɨl.

Before resuming our original derivation (21), I will show the ordering of Predicate Raising, Argument Raising, and Nominative Nullification:

(27) Conjunctive Ordering

Predicate Raising
Argument Raising
Nominative Nullification

At this point, rule ordering deserves some comment. Chomsky (1965:223) distinguishes two types of rule ordering: intrinsic and extrinsic. The former refers to order imposed by how rules are formulated, while the latter refers to order imposed by the explicit ordering of rules. It has been assumed that these two types of order are necessary for a generative-transformational grammar. Against this tradition, Koutsoudas (1971b) and others raise a question, claiming that all rules are unordered, i.e., no rules are extrinsically ordered. As far as the three rules under (27) are concerned, extrinsic rule ordering is not required since these rules are intrinsically ordered and no conflict arises. However, I still feel that the two types of rule ordering are necessary to account for the expanded data. In other words, conjunctive ordering (27) (cf. Chomsky-Halle, 1968) assumes that the two types of rule ordering are not out of place in linguistic theory.

Resuming our original derivation, Nominative Nullification does not apply to P-marker (21), since the second NP does not contain the Nominative marker. Now let us consider the proposition constituent and the modality constituent of the final cycle. As we saw in the free scrambled sentences, modality elements are attached to the verb on the surface. In order to account for this surface fact, I postulate Modality Lowering, which lowers the modality constituent of the final cycle to the verb of the same cycle. When the modality constituent is lowered to the verb, the proposition node loses its significance. There is no longer any significant distinction between the 'sentence' and the 'proposition'; the proposition is subsumed into the sentence together with the modality. Thus, when Modality Lowering applies, the node P must be pruned.

Let us now formulate Modality Lowering:

(28) Modality Lowering (obl)

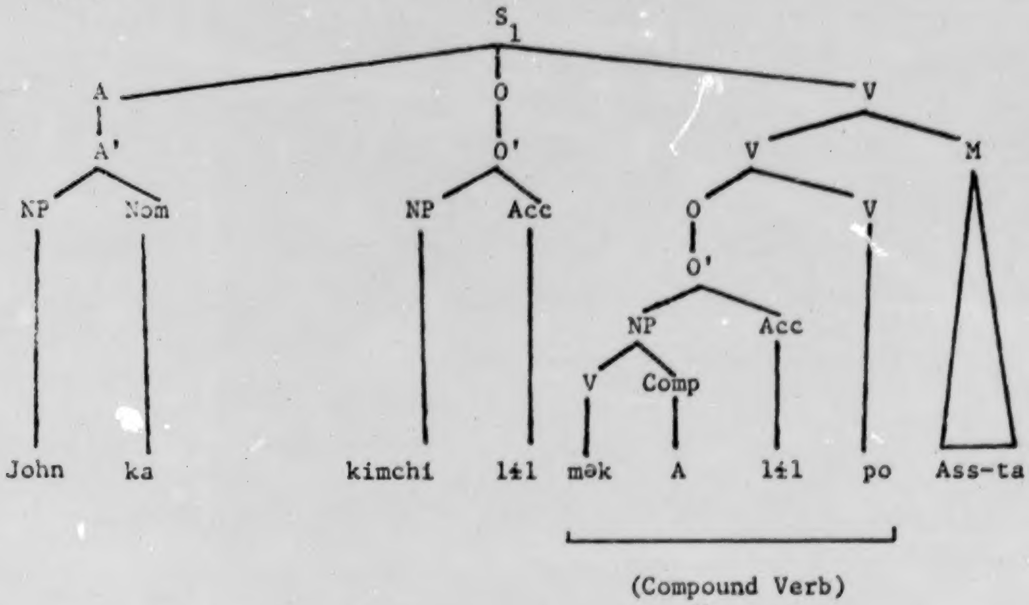
SD: $[\ [X - V]_P - M]_S$

$\quad\quad 1 \quad 2 \quad\quad 3$

SC: $1, 2, 3 \Longrightarrow 1, 2 \emptyset 3, \emptyset$

Modality Lowering applied to (21) yields the following final output, which is the correct output.

(29)


S1
A
A'
NP
Nom
O
O'
NP
Acc
V
V
M
O
V
O'
NP
Acc
V
Comp
John
ka
kimchi
lɨl
mək
A
lɨl
po
Ass-ta
(Compound Verb)

/// John-ka kimchi-lɨl mək-A-lɨl-po-Ass-ta ///

(The three slashes refer to a representation which has not undergone morphophonemic rules.)

Since Modality Lowering must apply only to the final cycle, it is a post-cyclical rule (cf. Lakoff, 1968a). Lakoff (p.39) states that pre-cyclical rules and post-cyclical rules apply to the entire P-marker, not simply to a subtree of the P-marker. He distinguishes between a post-cyclical rule and a final cycle rule (p.60). A post-cyclical rule is a rule which applies only on the last cycle following every cyclical rule, whereas a final cycle rule is a rule which applies on the last cycle before some cyclical rules (e.g. Appositive Formation). According to McCawley (1970a:287:8), in the case of the post-cyclical rule, all applications of one rule precede all applications of the next rule. Lakoff and McCawley characterize the same phenomenon in a somewhat different way.

I recapitulate rules thus far postulated in this section. Cyclical rules are ordered in the following order: Equi-NP Deletion, (Modality Adjustment to be formulated shortly), Modality Deletion, Predicate Raising, Argument Raising, Nominative Nullification, Normal Case Marking. We have so far postulated one post-cyclical rule, Modality Lowering.

Now introduction of Modality Adjustment is in order. Let us recall that the whole modality of the constituent sentence is deleted in verbal complementation constructions. In order to account for the phenomenon, we postulated Modality Deletion. Such a straightforward process, however, is not available in nominal complementation. In nominal complementation, some of the modality elements of the constituent sentence are preserved, and the rest are deleted. Which modality elements are to be deleted depends upon the type of nominal complementation. To make the phenomenon more complex, even the preserved modality elements are adjusted or modified somehow in many cases. Let us call the preserved and then adjusted modality elements the 'adjusted modality' (for short, Ajst-M). Another difficulty is that there is no exact one-to-one correspondence between modality elements and adjusted modality elements. There are some cases in which the modality elements are 'interfused' and then turned into the adjusted modality. In order to capture the phenomenon under discussion, I postulate Modality Adjustment, which adjusts the modality elements of the constituent sentence and then attaches them to the verb of the constituent sentence. As we will see shortly, in many instances the tense element out of the modality elements of the constituent sentence is adjusted and preserved. When we postulate Modality Adjustment, we need to clarify the ordering between Modality Adjustment and Modality Deletion. If we order Modality Deletion first, then the structural description of Modality Adjustment can never be met. Thus, we must apply Modality Adjustment before applying Modality Deletion.

Given the preceding preliminary information about Modality Adjustment, we are now ready to discuss the concrete data with KI-N-Comp and ƗM-N-Comp. It is usually the case that modality elements of the constituent sentence are deleted in constructions with KI-N-Comp and ƗM-N-Comp. Certain matrix verbs, however, require some of the modality elements to be preserved in the constituent sentence. The matrix verbs which are involved with this phenomenon in the construction with KI-N-Comp are 'optative' verbs, which express one's wish or hope, and verbs of 'likelihood'. Let us cite these verbs below:

(30) Optative Verbs

pil 'pray', kito-ha 'pray', pala 'hope', hɨimang-ha 'hope', wən-ha 'hope', kalmang-ha 'long for', ...

(31) Verbs of Likelihood

swiw 'likely', əlyəw 'unlikely'

Observe the following sentences:

(32) Optative Verbs

a. na-nɨn [sənkong-ha]-ki-lɨl pala-nɨn-ta
I Z-lim succeed Comp Acc hope Indi Stat
'I hope to succeed.'

b. na-nɨn [sənkong-ha]-ki-lɨl pala-Ass-ta
Past
'I hoped to succeed.'

c. na-nɨn [John-ka sənkong-ha-Ass]-ki-lɨl pala-nɨn-ta
Past
'I hope that John succeeded.'

d. na-nɨn [John-ka sənkong-ha-Ass]-ki-lɨl pala-Ass-ta
Past Past
'I hoped that John had succeeded.'

(33) Verbs of Likelihood[4]

a. [John-ka Korea-lɨl ttəna]-ki-ka swiw-ta
Nom Acc leave Comp Nom likely Stat
'John is likely to leave Korea.'

b. [John-ka Korea-lɨl ttəna]-ki-ka swiw-Ass-ta
Past
'John was likely to leave Korea.'

c. [John-ka Korea-lɨl ttəna-Ass]-ki-ka swiw-ta
Past
'John is likely to have left Korea.'

d. [John-ka Korea-lɨl ttəna-Ass]-ki-ka swiw-Ass-ta
Past Past
'John was likely to have left Korea.'

What attracts our attention is the time sequence between the constituent sentence and the matrix sentence. The sentences above show that if the whole modality constituent of the constituent sentence is deleted, the tense of the constituent sentence is interpreted as the same as that of the matrix sentence, regardless of the tense variation of the matrix sentence. On the other hand, if the past tense morpheme (i.e. Ass) is preserved in the constituent sentence, the tense of the constituent sentence precedes that of the matrix sentence.

The generalization above also holds true for the construction with ɨM-N-Comp. The matrix verbs which are involved with this phenomenon in the construction with ɨM-N-Comp are cited in (34). I cannot find any single syntactic or semantic term for these matrix verbs. Many of these verbs seem to be 'emotive' verbs, but emotiveness cannot cover all the relevant verbs. Let us call them verb category 315 for ease of reference:

(34) Verb Category 315

a. coh 'good', nappɨ 'bad', sɨlphɨ 'sorrowful', cɨlkəw 'glad', punmyən-ha 'obvious', tangyən-ha 'natural', ...

b. al 'know', molɨ 'not know', cham 'refrain', huhoe-ha 'regret', silmang-ha 'disappointed', sɨlphɨ-A-ha 'feel sorrowful', cɨlkəw-A-ha 'feel glad', ...

The fact that the generalization observed above in the construction with KI-N-Comp also holds true for the construction with ƗM-N-Comp is attested in the following examples:

(35) a. na-nɨn [John-ka Fiji-lɨl ttəna]-ɨm-ka sɨlphɨ-ta
I Z-lim Nom Acc leave Comp Nom sorrowful Stat
'I am sorry that John is leaving Fiji.'

b. na-nɨn [John-ka Fiji-lɨl ttəna]-ɨm-ka sɨlphɨ-Ass-ta
Past
'I was sorry that John left Fiji.'

c. na-nɨn [John-ka Fiji-lɨl ttəna-Ass]-ɨm-ka sɨlphɨ-ta
Past
'I am sorry that John left Fiji.'

d. na-nɨn [John-ka Fiji-lɨl ttəna-Ass]-ɨm-ka sɨlphɨ-Ass-ta
Past Past
'I was sorry that John had left Fiji.'

In order to account for the generalization observed above, I postulate Modality Adjustment for KI/ƗM-N-Comp's as follows:

(36) Modality Adjustment for KI/ƗM-N-Comp's (cbl)

$$\text{SD: } \underset{1}{R + [U -} \; \underset{2}{[V + W]_V} - \underset{3}{\overset{\text{Tns}}{\begin{bmatrix}\text{Past}\\ \text{Past-Past}\end{bmatrix}}} - X]_S + \textbf{Comp}$$

$$+ Y + \underset{4}{\overset{\text{Tns}}{\begin{bmatrix}\begin{Bmatrix}\text{Fut}\\ \text{Pres}\end{Bmatrix}\\ \text{Past}\end{bmatrix}}} + Z$$

$$\text{SC: } 1, 2, 3, 4 \Longrightarrow 1, 2 \# 3, 3, 4$$

where: Comp refers to KI-N-Comp or ƗM-N-Comp

This rule is a minor rule in the sense that only certain matrix verbs are involved. The fact that this rule is a minor rule is accounted for as follows:

(37) Rule-36 as Minor Rule

$$\left\{\begin{array}{l} \begin{bmatrix} +\text{V} \\ \left\{\begin{matrix} +\text{Optative} \\ \pm\text{Likely} \end{matrix}\right\} \\ \\ +\ [+\underline{\text{KI}}\text{-N-Comp}]\ \underline{} \end{bmatrix} \\ \begin{bmatrix} +\text{V} \\ +315 \\ \\ +[+\underline{\text{ƗM}}\text{-N-Comp}]\ \underline{} \end{bmatrix} \end{array}\right\} \rightarrow \begin{bmatrix} +\text{Modality Adjustment} \\ \text{for } \underline{\text{KI}}/\underline{\text{ƗM}}\text{-N-Comp's} \end{bmatrix}$$

When we postulate these rules, we must specify the matrix verbs which co-occur with these types of nominal complementation, in terms of features of the verb matrix in the lexicon:

(38) Lexicon

al 'know' ...

$$\begin{bmatrix} +\text{V} \\ +315 \\ +\ \left[+\left\{\begin{matrix} \underline{\text{ƗM}}\text{-N-Comp} \\ \underline{\text{KəS}}\text{-N-Comp} \end{matrix}\right\}\right]\ \underline{} \end{bmatrix}$$

We have not yet discussed modality adjustment in the construction with KəS-N-Comp. Modality adjustment in the construction with KəS-N-Comp behaves slightly differently from modality adjustment in the construction with KI/ƗM-N-Comp. In the case of KI/ƗM-N-Comp, the preserved modality element (i.e. Ass) is identical to the surface past tense morpheme (i.e. Ass), and the rule is specific to verbs of the matrix sentence. However, in the case of KəS-N-Comp, the adjusted modality elements are not identical to any surface tense morpheme, and the rule is not specific to particular verbs; it applies to any matrix verb. Among the constituent modality elements in KəS-N-Comp constructions, tense and mood (only indicative, retrospective, and subjunctive moods are relevant) participate in the process of modality adjustment. I will limit my discussion only to tense and indicative mood, excluding retrospective and subjunctive moods. It is interesting to note that the time sequence between the matrix tense and the constituent tense plays a significant role in the modality adjustment in constructions with KəS-N-Comp. In what follows, we will attempt to formally account for this phenomenon.

The adjusted modality nɨn is used if the matrix modality and the constituent modality express the same time sequence. Observe the following sentences:

(39) a. John-ka [Mary-ka ka-nɨn]-kəs-lɨl po-nɨn-ta
Nom Nom go Ajst-M Comp Acc see Indi Stat
'John sees Mary going.'

b. John-ka [Mary-ka ka-nɨn]-kəs-lɨl po-Ass-ta
Ajst-M Comp Past
'John saw Mary going.'

c. John-ka [Mary-ka ka-nɨn]-kəs-lɨl po-Ass-Ass-ta
Ajst-M Comp Past-Past
'John had seen Mary going.'

d. John-ka [Mary-ka ka-nɨn]-kəs-lɨl po-kess-ta
Ajst-M Comp Conject
'John will see Mary going.'

In (39a), the tense of the matrix modality is the present, which has no overt surface realization, and the tense of the adjusted modality is also the present. The time sequence between the constituent modality and the matrix modality is identical. Likewise, in (39b), the tense of the matrix modality is the past, and the tense of the adjusted modality is also the past. In (39c), the tense of the matrix modality is the past-past, and the tense of the adjusted modality is also the past-past. Similarly, in (39d), the tense of the matrix modality is conceptually the future, and the tense of the adjusted modality is also the future. The data under consideration show that when the tense of the matrix modality is the same as that of the constituent modality, the adjusted modality requires its surface-realized form to be nɨn in the construction with KəS-N-Comp. These facts indicate that sentences (39) have the following underlying structures:

```
(40)  a.  John-ka [Mary-ka ka-nɨn-ta    ]-kəs-lɨl po-nɨn-ta
                             Indi Stat               Indi Stat

      b.  John-ka [Mary-ka ka-Ass-ta]-kəs-lɨl  po-Ass-ta
                             Past                 Past

      c.  John-ka [Mary-ka ka-Ass-Ass-ta]-kəs-lɨl po-Ass-Ass-ta
                             Past Past               Past Past

      d.  John-ka [Mary-ka ka-{nɨn }-ta]-kəs-lɨl po-kess-ta
                              {kess}               Conject
                               Indi
                               Conject
```

The generalization observed above on the adjusted modality nɨn needs some modification. There is an additional selectional restriction. When the constituent verb is an adjectival verb or copula (i.e. the linking verb), the adjusted modality nɨn becomes ɨn. This fact is examplified in the following data:

(41) a. John-ka (hanɨl-ka noph-ɨn)-kəs-lɨl molɨ-nɨn-ta
Nom sky Nom high Ajst-M Comp Acc not-know Indi Stat
'John does not know that the sky is high.'

b. John-ka [Mary-ka kyosa i- ɨn)-kəs-lɨl al-nɨn-ta
Nom Nom teacher be Ajst-M Comp Acc know Indi Stat
'John knows that Mary is a teacher.'

Such a change from nɨn to ɨn results in homonymy with another adjusted modality ɨn. When the tense of the constituent modality precedes the tense of the matrix modality in time sequence, the adjusted modality formative ɨn is used. Observe the following sentences:

(42) a. John-ka [Mary-ka ka-ɨn]-kəs-lɨl al-nɨn-ta
Nom Nom go Ajst-M Comp Acc know Indi Stat
'John knows that Mary went/has gone.'

b. John-ka [Mary-ka ka-ɨn]-kəs-lɨl al-Ass-ta
Ajst-M Past
'John knew that Mary had gone.'

c. John-ka [Mary-ka ka-ɨn]-kəs-lɨl al-kess-ta
Ajst-M Conject
'John will know that Mary went/has gone.'

As the English translations suggest, the tense of the constituent modality precedes the tense of the matrix modality in time sequence. This indicates that sentences (42) have the following underlying structures:

(43) a. John-ka [Mary-ka ka-Ass-ta]-kəs-lɨl al-nɨn-ta
Past

b. John-ka [Mary-ka ka-Ass-Ass-ta]-kəs-lɨl al-Ass-ta
Past Past Past

c. John-ka [Mary-ka ka-Ass-ta]-kəs-lɨl al-kess-ta
Past Conject

We still have another adjusted modality formative *ɨl*. When the tense of the constituent modality follows the tense of the matrix modality in time sequence, the adjusted modality formative *ɨl* is used. Observe the following sentences:

(44) a. John-ka [ka-*ɨl*]-kəs-lɨl yaksokha-nɨn-ta
Nom go Ajst-M Comp Acc promise Indi Stat
'John promises to go.'

b. John-ka [ka-*ɨl*]-kəs-lɨl yaksokha-*Ass*-ta
Ajst-M Past
'John promised to go.'

c. John-ka [ka-*ɨl*]-kəs-lɨl yaksokha-kess-ta
Ajst-M Conject
'John will promise to go.'

It seems to be universally true that the matrix verb *promise* does not allow the tense of the constituent modality to precede its own tense in time sequence. Rather, the tense of the constituent modality must follow the tense of the matrix modality in the construction with the 'verb of future' (e.g. *promise*, *forecast*, *predict*, etc.). Thus, sentences (44) are assumed to have the following underlying structures:

(45) a. John-ka [John-ka ka-$\left\{\begin{matrix}\text{nɨn}\\ \text{kess}\end{matrix}\right\}$-ta]-kəs-lɨl yaksokha-nɨn-ta

b. John-ka [John-ka ka-$\left\{\begin{matrix}\text{nɨn}\\ \text{kess}\end{matrix}\right\}$- ta]-kəs-lɨl yaksokha-Ass-ta

c. John-ka [John-ka ka-$\left\{\begin{matrix}\text{nɨn}\\ \text{kess}\end{matrix}\right\}$- ta]-kəs-lɨl yaksokha-kess-ta

On the basis of the above observations, I will formulate Modality Adjustment for *KəS*-N-Comp as follows:

(46) Modality Adjustment for KəS-N-Comp (obl)[5]

$$\text{SD:}\quad R + [U - [V + W]_V - \underset{\begin{bmatrix}\alpha\ \text{Tns}\\ \beta\ \text{Tns}\\ \gamma\ \text{Tns}\end{bmatrix}}{\text{Tns}} - X]_S + \text{Comp} + Y + \underset{[\alpha\ \text{Tns}]}{\text{Tns}} + Z$$

$$1 \qquad 2 \qquad\qquad 3 \qquad\qquad\qquad\qquad 4$$

$$\text{SC:}\quad 1,\ 2,\ 3,\ 4 \Longrightarrow 1,\ 2\ \#\ \underset{\begin{bmatrix}\text{nɨn}\\ \text{ɨn}\\ \text{ɨl}\end{bmatrix}}{[\qquad]}\ \text{Tns}\ ,\ 3,\ 4$$

where: Comp refers to KəS-N-Comp.
α = any given tense.
β = tense which precedes α in terms of time sequence
γ = tense which follows α in terms of time sequence

(47) NɨN-to-ɨN Change for KəS-N-Comp (obl)

$$\text{SD:}\quad X + [Y + \underset{\left[+\begin{Bmatrix}\text{Adj}\\ \text{Cop}\end{Bmatrix}\right]}{V} - \text{nɨn}] - \underline{\text{kəs}} + Z$$

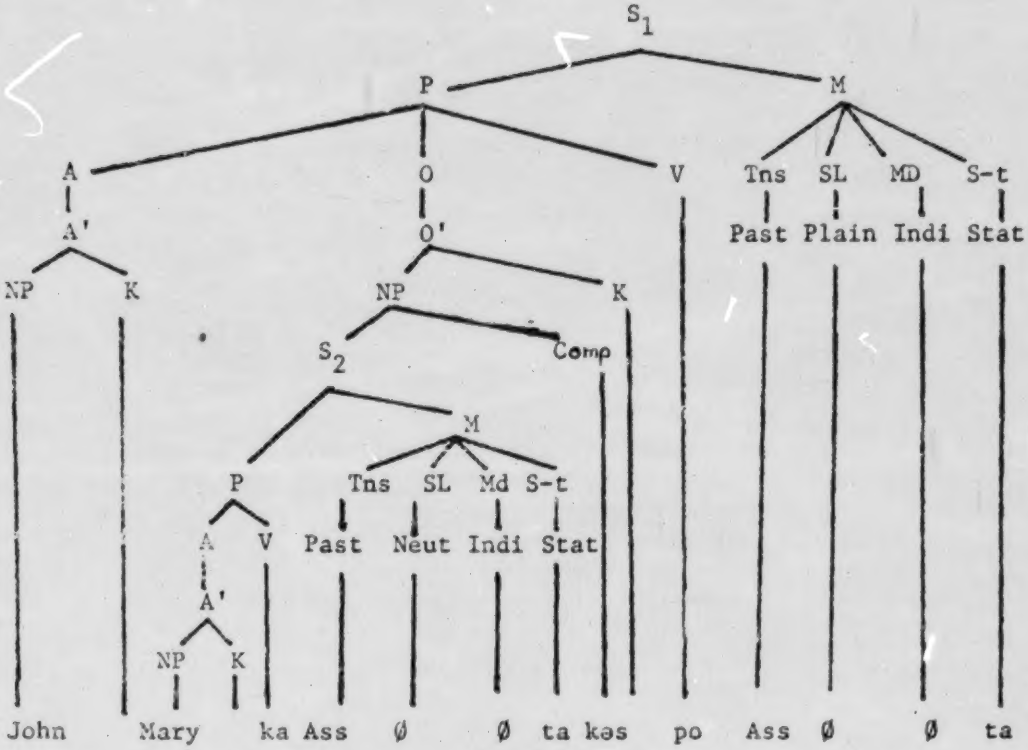
$$1 \qquad\qquad\qquad 2 \qquad\quad 3$$

$$\text{SC:}\quad 1,\ 2,\ 3 \Longrightarrow 1,\ \underline{\text{ɨn}},\ 3$$

For illustration of Modality Adjustment for KəS-N-Comp, let us take sentence (48).

(48) John-ka Mary-ka ka-nɨn-kəs-lɨl po-Ass-ta
Nom Nom go Ajst-M Comp Acc see Past Stat
'John saw Mary going.'

(49) (underlying)


S1
P
M
A
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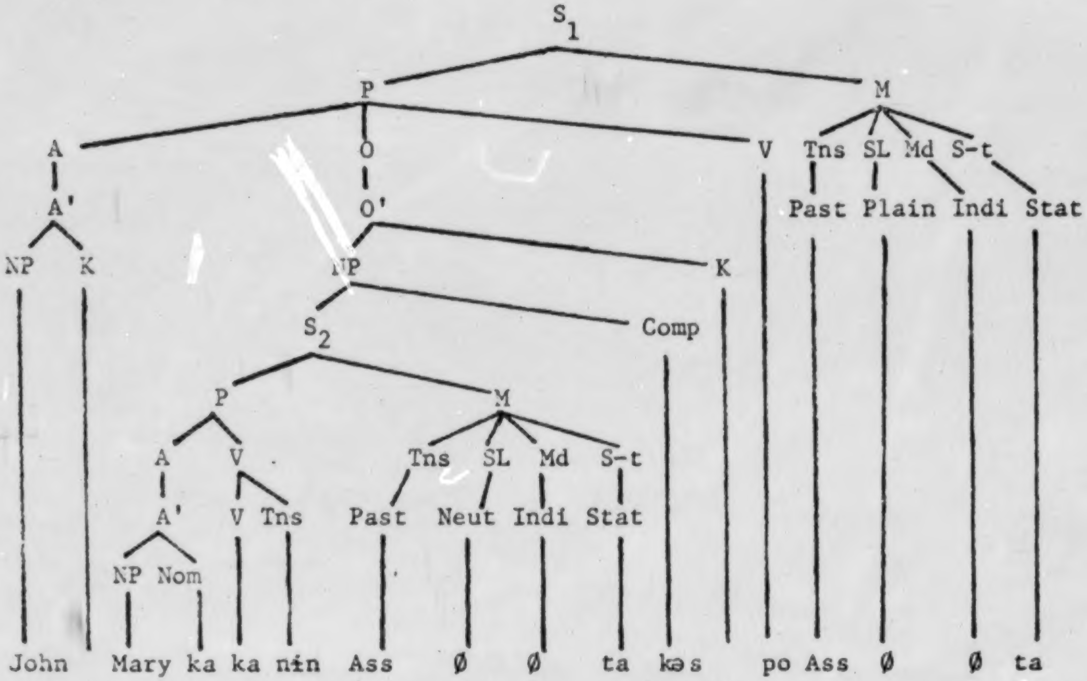
V
Tns
SL
MD
S-t
A'
O'
Past
Plain
Indi
Stat
NP
K
NP
K
S2
Comp
M
P
Tns
SL
Md
S-t
A
V
Past
Neut
Indi
Stat
A'
NP
K
John
Mary
ka
Ass
∅
∅
ta
kəs
po
Ass
∅
∅
ta

On the S2-cycle, NCM-a replaces K under Agent by Nom, yielding the following.

(50) /// Mary-ka ka-Ass-ta ///

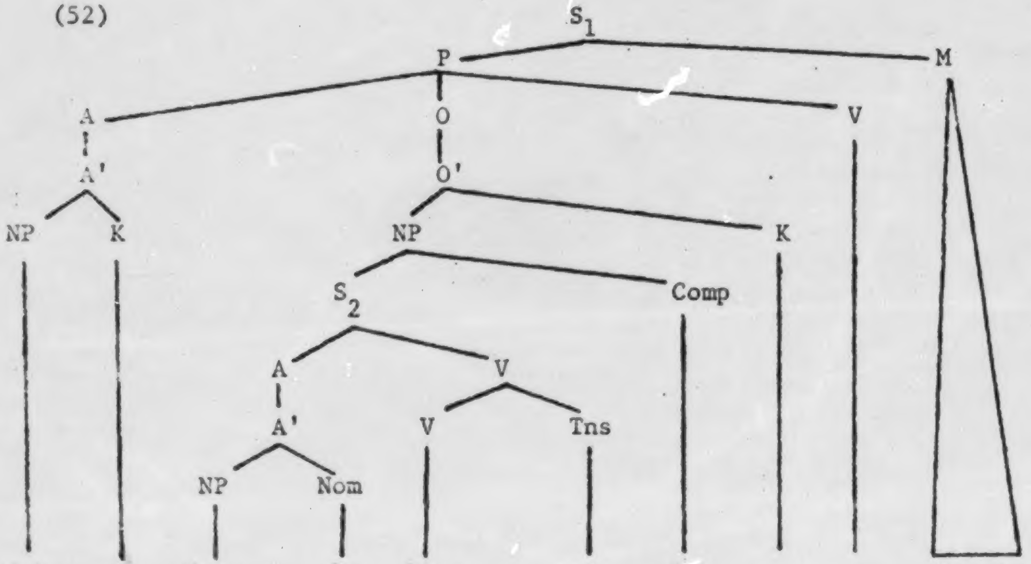
On the S1-cycle, Equi-NP Deletion cannot apply. Modality Adjustment for KəS-N-Comp adjusts the past tense (i.e. Ass) of the constituent modality to the adjusted modality nɨn and attaches it to the constituent verb, yielding the following structure.

(51)


S1
P
M
A
O
V
Tns
SL
Md
S-t
A'
O'
Past
Plain
Indi
Stat
NP
K
NP
K
S2
Comp
P
M
A
V
Tns
SL
Md
S-t
A'
V
Tns
Past
Neut
Indi
Stat
NP
Nom
John
Mary
ka
ka
nɨn
Ass
Ø
Ø
ta
kəs
po
Ass
Ø
Ø
ta

Modality Deletion deletes the constituent modality, yielding the following.

(52)


S1
P
M
A
O
V
A'
O'
NP
K
NP
K
S2
Comp
A
V
A'
V
Tns
NP
Nom
John
Mary
ka
ka
nɨn
kəs
po
Ass-ta

NCM-a replaces K under Agent by Nom, and NCM-b replaces K under Object by Acc. Modality Lowering lowers the modality to the verb, yielding the following final output.

(53) /// John-ka Mary-ka ka-nɨn-kəs-lɨl po-Ass-ta ///

It should be noted that NɨN-KəS-N-Comp and KO-N-Comp do not undergo Modality Adjustment and Modality Deletion. The constituent modality in these Comp's is retained. Since Modality Deletion which is ordered immediately after Modality Adjustment necessarily applies, we must posit a rule feature to the effect that NɨN-KəS-N-Comp and KO-N-Comp are immune to Modality Deletion. Otherwise, Modality Deletion incorrectly deletes the constituent modality even in these Comp's.

(54)

$$\begin{bmatrix} +\text{V} & \\ + \left\{ \begin{bmatrix} [+\underline{\text{NɨN-KəS}}\text{-N-Comp}] \\ [+\underline{\text{KO}}\text{-N-Comp}] \end{bmatrix} \right\} & \_\_\_ \end{bmatrix} \rightarrow [-\text{Modality Deletion}]$$

I will not specify the lexicon for verbs which co-occur with NɨN-KəS-N-Comp or KO-N-Comp.[6]

3.2. Equi-Subject and Non-Equi-Subject Constraints

It is interesting to note that all types of verbal complementation are subject to the equi-subject constraint (cf. Lakoff, 1970d), which is also known as the like-subject constraint (cf. Perlmutter, 1968). There are some exceptional verbs (e.g. *ci* (a kind of passive formative), *ha*(1) 'cause', *ha*(2) 'permit', *mal* 'prevent'). The matrix verb *tu* 'leave it/him as it/he is', on the other hand, is subject to the non-equi-subject constraint (i.e. unlike-subject constraint). Among nominal complementations, only *KI*-N-Comp is subject to equi-subject constraint. In the case of *KI*-N-Comp, matrix verbs which are subject to this constraint include only the verbs of self-judgment and the verbs of difficulty. We will cite some matrix verbs which co-occur with the Comp's under discussion. In the following list, single stars refer to verbs which are not subject to the equi-subject constraint, whereas double stars refer to verbs which are subject to the non-equi-subject constraint.

(1)

Comp	Matrix Verb
KO-V-Comp	siph 'desirous' (Desiderative verb), iss 'exist' (Verb of Existence), mal 'end up with', ...
A-V-Comp	po 'try', na 'become' [+Inchoative], ci 'become' [+Inchoative], cu 'give' [±Benefit], pəli 'finish up' [+Perfective], ssa 'cheap' [+Repetitive], ha 'do' (pro-verb), ka 'go' [+Progressive], o 'come' [+Progressive], po-i 'seem', ... * ci [+Passive]
KE-V-Comp	toe 'become' [+Inchoative], ... * ha(1) 'cause' ha(2) 'permit', mal 'not do, prevent', ... ** tu 'leave it/one as it/one is',

KI-N-Comp	(a) Verbs of Self-judgment: coh 'fond of', silh 'not fond of', kɨliuw 'longing for', cɨlkəw 'glad', sɨlphɨ 'sorrowful', səpsəp-ha 'regretful', phikon-ha 'tired', cilu-ha 'tedious', changphi-ha 'shameful', musəw 'fearful' pukkɨləw 'shy', puləw 'jealous', ... (b) Verbs of Difficulty: swiw 'easy', əlyəw 'difficult'; (c) * Other Verbs

Consider the following examples:

(2) KO-V-Comp

a. * na-ka [John-ka Mary-lɨl tow]-ko-lɨl siph-ta
I Nom Nom Acc help Comp Acc desirous Stat
* 'I am desirous for John to help Mary.'

A-V-Comp

b. * na-ka [John-ka kimchi-lɨl mək]-A-lɨl po-nɨn-ta
I Nom Nom Acc eat Comp Acc try Indi Stat
* 'I try for John to eat kimchi.'

KE-V-Comp

c. * na-ka [John-ka Mary-lɨl salangha]-ke-lɨl
I Nom Nom Acc love Comp Acc

toe-Ass-ta
become Past Stat
* 'I became for John to love Mary.'

KI-N-Comp

d. * na-ka [John-ka Fiji-e ka]-ki-ka silh-ta
I Nom Nom Goal go Comp Acc not-fond-of Stat
'I do not like for John to go to Fiji.'

All the sentences in the above are ungrammatical. The ungrammaticality of these sentences is due to the fact that the matrix subject and the constituent subject are not coreferential.

Now let us delete the constituent subjects from the above sentences and show them in the following:

(3) a. na-ka [___ Mary-lɨl tow]-ko-lɨl siph-ta
'I want to help Mary.'

b. na-ka [___ kimchi-lɨl mək]-A-lɨl po-nɨn-ta
'I try to eat kimchi.'

c. na-ka [___ Mary-lɨl salang-ha]-ke-lɨl tow-Ass-ta
'I came to love Mary.'

d. na-ka [___ Fiji-e ka]-ki-ka silh-ta
'I do not want to go to Fiji.'

These sentences are all grammatical. It is obvious that the deleted constituent subjects of the underlying structures must be coreferential to the matrix subjects.

In order to determine whether or not the constituent subjects of the underlying structures can be preserved on the surface, let us fill in the blanks with the matrix subjects and show them in the following:

(4) a. * na-ka [na-ka Mary-lɨl tow]-ko-lɨl siph-ta
'I want myself to help Mary.'

b. * na-ka [na-ka kimchi-lɨl mək]-A-lɨl po-nɨn-ta
'I try for myself to eat kimchi.'

c. * na-ka [na-ka Mary-lɨl salang-ha]-ke-lɨl tow-Ass-ta
'I came for myself to love Mary.'

d. * na-ka [na-ka Fiji-e ka]-ki-ka silh-ta
'I do not like for myself to go to Fiji.'

These sentences show that if the constituent subject which is coreferential to the matrix subject is not deleted, the output is not grammatical.

From the above examples (2, 3, 4), we have observed two facts: (1) the complementation types under consideration are subject to the equi-subject constraint, and (2) the constituent subject, which is coreferential to the matrix subject, must be obligatorily deleted on the surface. In other words, the first generalization requires that the construction meet the structural description of Equi-NP Deletion (cf. Lakoff, 1965), and the second generalization requires that the construction undergo Equi-NP Deletion. Otherwise, the output will be ungrammatical. These facts are formalized as follows:

(5) Formalism of Equi-Subject Constraint

$$\left\{\begin{bmatrix} +\text{V} \\ +\left\{\begin{matrix}[+\underline{\text{KO}}\text{-V-Comp}]\\ [+\underline{\text{A}}\text{-V-Comp}]\\ [+\underline{\text{KE}}\text{-V-Comp}]\end{matrix}\right\}\underline{\hspace{2em}} \end{bmatrix} \\ \begin{bmatrix} +\text{V} \\ +\ [+\underline{\text{KI}}\text{-N-Comp}]\ \underline{\hspace{2em}} \\ \left\{\begin{matrix} +\text{Self-judge}\\ \pm\text{Easy}\end{matrix}\right\}\end{bmatrix}\right\} \rightarrow \begin{bmatrix}+\text{ SD of END}\\ +\text{ END}\end{bmatrix}$$

This rule says that (1) any matrix verb which cooccurs with any type of verbal complementation must meet the SD of Equi-NP Deletion and undergo the rule, and (2) verbs of self-judgment or verbs of difficulty which cooccur with KI-N-Comp must meet the SD of Equi-NP Deletion and undergo the rule. This rule has captured a generality in the sense that construction types rather than individual lexical items are specified for application of END. If we postulate this type of rule formalism, we must specify matrix verbs which cooccur with V-Comp's and KI-N-Comp in terms of the verb matrix as follows:

(6) In the Lexicon

po 'try' ...

$$\begin{bmatrix} +\text{V} \\ +\ [+\underline{\text{A}}\text{-V-Comp}]\ \underline{\hspace{2em}} \end{bmatrix}$$

The single-starred verbs in the list (1) are not subject to the equi-subject constraint. They are: ci (one type of passive formatives), ha(1) 'cause', ha(2) 'permit', mal 'not do', etc. These matrix verbs must be specified in the lexicon as exceptional to Rule (5). For example,

(7) In the Lexicon

ha(1) 'cause' ...

$$\begin{bmatrix} +\text{V} \\ +\ [+\underline{\text{KE}}\text{-V-Comp}]\ \_\_\_ \\ -\ \text{Rule-5} \end{bmatrix}$$

The matrix verb tu 'leave it/one as it/one is' which cooccurs with KE-V-Comp is subject to the converse of the equi-subject constraint, namely, the non-equi-subject constraint. In other words, if the matrix subject is coreferential to the constituent subject, the construction is ungrammatical. Observe the following sentences:

(8) a. na-ka [John-ka ca]-ke-lɨl tu-Ass-ta
I Nom Nom sleep Comp Acc leave Past Stat
'I left John to sleep.'

b. John-ka [na-ka ca]-ke-lɨl tu-Ass-ta
Nom I Nom sleep Comp Acc leave Past Stat
'John left me to sleep.'

c. * John-ka [caki-ka ca]-ke-lɨl tu-Ass-ta
Nom self Nom sleep Comp Ass leave Past Stat
'John left himself to sleep.'

d. * John-ka [___ ca]-ke-lɨl tu-Ass-ta
Nom sleep Comp Ass leave Past Stat
'John left (himself) to sleep.'

A comparison of sentences (8a, b) and sentences (8c, d) shows that if the two subjects are coreferential, the construction is ungrammatical. The construction with the matrix verb tu 'leave it/one as it/one is' requires the two subjects to be non-coreferential. This fact can be accounted for by negatively specifying the structural description feature of Equi-NP Deletion in the lexicon as in (9).

(9)

tu 'leave it/one as it/one is'

$$\begin{bmatrix} +\text{V} \\ +\ [+\underline{\text{KE}}\text{-V-Comp}]\underline{\quad} \\ -\ \text{SD of END} \end{bmatrix}$$

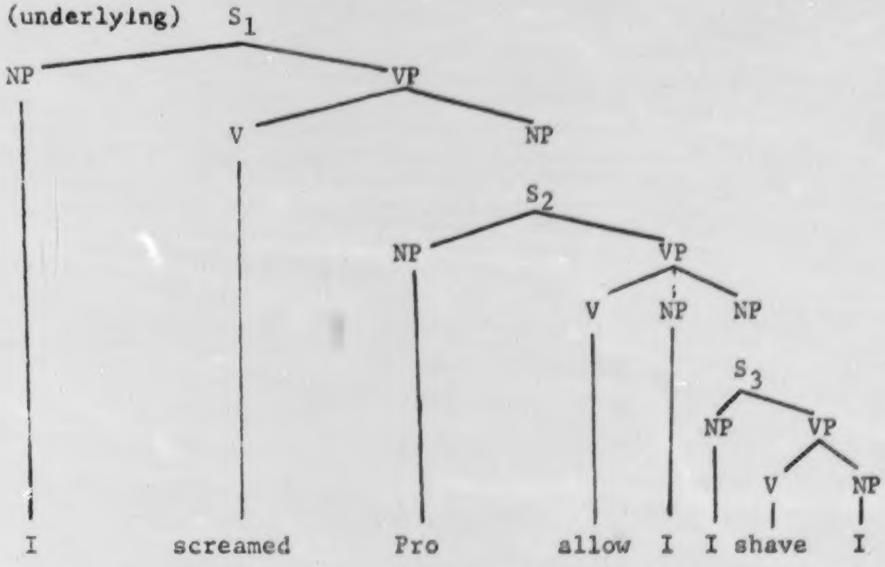
At this point in our discussion, we need to mention a theoretical issue. The issue is whether we must invoke transformations or deep structure constraints for the blocking of ill-formed structures. Up to Chomsky (1965) and Lakoff (1965), the blocking of ill-formed structures had been accounted for by transformations. Chomsky (1965:138-9) imposed a filtering function on transformations in order to exclude ill-formed structures. Lakoff (1965) expanded Chomsky's thinking by incorporating the theory of exceptions, in which SD features and rule features were invoked. In place of Chomsky-Lakoff's transformational blockage mechanism for ill-formed structures, Perlmutter (1968) proposed an alternative approach.

Perlmutter (1968) proposes 'deep structure constraints' in place of 'transformational blockage' to handle the equi-subject and non-equi-subject constraints. He states that if the unlike-subject constraint (i.e. non-equi-subject constraint) is transformational in nature, then the grammaticality of the resulting sentence will depend on whether or not the constituent subject and the matrix subject are non-coreferential at the stage of derivations at which Equi-NP Deletion applies; on the other hand, if we are dealing with a deep structure constraint, then it is the coreferentiality or the non-coreferentiality of the two subjects before the application of any transformation that is relevant to the grammaticality or ungrammaticality of the resulting sentence.

In order to illustrate his point, Perlmutter takes the following example, where the matrix verb scream is known to be subject to the non-equi-subject constraint.

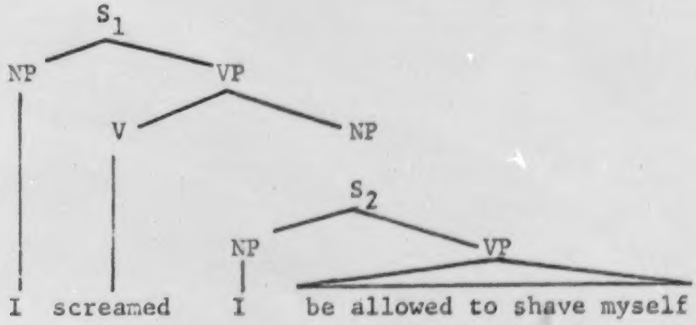
(10) I screamed to be allowed to shave myself.

(11) (underlying)


S1
NP
VP
V
NP
S2
NP
VP
V
NP
NP
S3
NP
VP
V
NP
I
screamed
Pro
allow
I
I
shave
I

Reflexivization applies on the S3-cycle. On the S2-cycle the subject of S3 is deleted by Equi-NP Deletion and Passivization applies, so that I becomes the derived subject of S2. Then, we have the following P-Marker.

(12)


S1
NP
VP
V
NP
S2
NP
VP
I
screamed
I
be allowed to shave myself

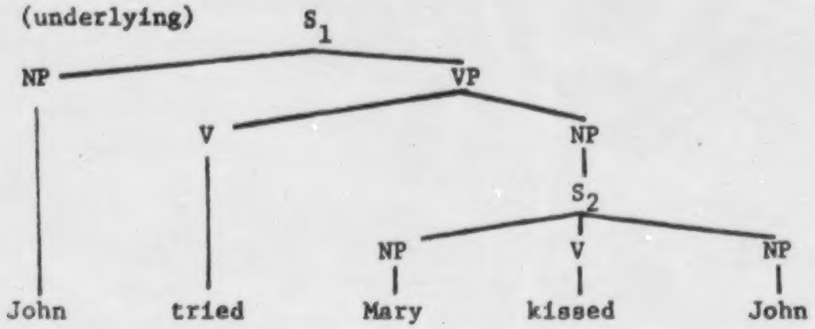
In (12), the matrix subject and the constituent subject are coreferential. The SD of END is met and END is applicable. If Lakoff's formalism is correct, the surface structure corresponding to (12) will be judged ungrammatical. But sentence (10) is perfectly grammatical. On these grounds, Perlmutter concludes that Lakoff's formalism is incorrect.

Perlmutter proposes that the non-equi-subject constraint be a deep structure constraint rather than a transformational blockage. Then, it does not matter whether or not the SD of END is met or END applies, as long as the constituent subject and the matrix subject are not coreferential in the underlying structure. This condition is met in underlying structure (11). The grammaticality of sentence (10) is therefore evidence that the non-equi-subject constraint is a deep structure constraint.

However, it seems to me that Perlmutter will be confronted with a genuine counter-example. In order to illustrate this point, let us take the following sentence, where the matrix verb *try* is known to be subject to the equi-subject constraint.

(13) John *tried* to be kissed by Mary.

(14) (underlying)



If Perlmutter is correct, the equi-subject constraint must be a deep structure constraint. P-marker (14) does not meet the deep structure equi-subject constraint, so the resultant sentence (13) must be judged ungrammatical. Contrary to Perlmutter's conclusion, the resultant sentence (13) is perfectly grammatical. Transformational blockage rather than the deep structure constraint can account for the grammaticality or ungrammaticality of the construction under consideration. On the S2-cycle, if we do not apply Passivization, the resultant sentence will be ungrammatical, since (14) does not meet the SD of END. On the other hand, if we apply Passivization, the two subjects become coreferential and the SD of END is met. On the S1-cycle, END deletes the constituent subject, yielding the final output (13).

Perlmutter claims that sentence (13) is not a genuine counter-example to his conclusion but only an apparent counter-example, since it is derived from the following sentence.

(15) John tried to get/have himself kissed by Mary.

However, it seems to me that sentence (13) and sentence (15) are not fully synonymous. The former has no reading of explicit causation, while the latter does.

To recapitulate, Perlmutter's proposal that the equi-subject and the non-equi-subject constraint be deep structure constraint rather than transformational blockage does not necessarily hold true. Recognizing that the issue has not been solved, I tentatively adopt transformational blockage (i.e. Lakoff's formalism) for the equi-subject and the non-equi-subject constraints in this study.[7]

In 3.3. we will further observe the equi-subject and non-equi-subject constraints in A-HA-constructions (A refers to A-Verbal complementizer, and HA refers to the pro-verb ha).

3.3. Verbs of Self-judgment

In this section, I will discuss some general characteristics of verbs of self-judgment in complex sentences (i.e. complementation) as well as in simplex sentences. Verbs of self-judgment are verbs that can be used only to state the judgment of the speaker (i.e. the subject) of the statement sentence, and only to request a judgment from the addressee (i.e. the subject) of a question sentence. They are subject to the equi-subject constraint when embedded. If we were to adopt a performative analysis (Ross, 1970), both these facts could be combined into a single statement about constraints applying to sentences with self-judgment verbs and sentences in which they are embedded. However, difficulties in formalization have made it impractical to adopt such an analysis in the present study.

For ease of reference, let us cite some verbs of self-judgment:

(1) Verbs of Self-judgment

a. siph 'desirous of' (Desiderative verb)

b. coh 'fond of', silh 'not fond of', yeppɨ 'pretty', kwiyəw 'lovely, cute', miuw 'ugly, unpleasant', musəw 'fearful', kɨliuw 'longing for', sɨlphɨ 'sorrowful', kippɨ 'glad', cɨlkəw 'joyful', puləw 'jealous', chuw 'cold', təw 'hot', ...

c. cilu-ha 'tedious', səpsəp-ha 'regrettable', ...

d. tɨlli 'be heard', po-i 'be seen', ne-na 'smell', mas-na 'taste', ...

e. mas-iss 'tasty', cemi-iss 'interested', ...

f. kess 'will' (Volition, excluding conjecture), ma (a

sentence-final particle for the speaker's promise),[8] ...
These verbs are sub-grouped according to different formal properties. The desiderative verb as a matrix verb co-occurs only with *KO*-V-Comp, while the rest of the verbs of self-judgment do not co-occur with *KO*-V-Comp. Verbs in category (c) are composed of an adjective plus the pro-verb *ha*. Verbs in category (d) are verbs of the five senses. Verbs in category (e) are composed of a noun plus the verb of existence *iss*. The last category is not verbs.

The equi-subject constraint which is required for verbs of self-judgment can be 'de-constrained' in two ways: one is authoritative conjecture (=guessing), and the other is verbal compounding by the *A-HA* construction (i.e. *A*-V-Comp plus the pro-verb *ha*). By authoritative conjecture, I mean that the speaker utters a sentence on the presupposition that he knows or guesses somebody else's self-judgment. Without such a presupposition, the speaker, if he is not coreferential with the subject, does not utter a sentence containing a verb of self-judgment. If a speaker utters such a sentence with no such presupposition, he violates a systematic presupposition. Consider the following sentences which contain verbs of self-judgment:

(2) a. na-ka Korea-e ka-ko *siph*-ta
I Nom Goal go Comp desirous Stat
'I want to go to Korea.'

b. * {John, ne}-ka Korea-e ka-ko *siph*-ta
you Nom Goal go Comp desirous Stat
'John wants/You want to go to Korea.'
(Do not be misled by the translation)

c. ne-ka holang-i-ka *musəw*-nɨn-ya
you Nom tiger Nom fearful Indi Ques
'Are you afraid of tigers?'

d. * {John, ne}-ka holang-i-ka musəw-ta
you Nom tiger Nom fearful Stat
'John is/You are afraid of tigers.'
(Do not be misled by the translation)

Let us compare (2a) and (2b). They are statement sentences. In (2a), the speaker and the subject are coreferential. This sentence meets the requirement of the equi-subject constraint. However, in (2b), the speaker and the subject are not coreferential. Thus, the sentence is anomalous (i.e. a presupposition is violated). When a sentence like (2b) is embedded under a sentence whose subject is coreferential with the constituent subject, it is well-formed. Now let us compare (2c) and (2d). The reason why (2c) is not anomalous is that the addressee and the subject are coreferential in the question sentence. But the corresponding sentence (2d) is anomalous since it is a statement sentence, in which the speaker and the subject are not coreferential.

The anomalous sentences (2b) and (2d) can be regarded as well-formed only if the speaker's authoritative conjecture is involved. Let us cite those ill-formed sentences with some phrases added:

(3) a. thɨllim-əpsi, {John, ne}-ka Korea-e ka-ko
certainly you Nom Goal go Comp

siph-ta
desirous Stat
'Certainly, John wants/you want to go to Korea.'

b. kəcicmal ha-ki ma-la, ne-ka holang-i-ka
do not tell a lie you Nom tiger Nom

musəw-ta
fearful Stat
'Do not tell a lie. You are afraid of tigers.'

The underlined phrases provide the presupposition that the speaker is making an authoritative conjecture. In such a case, the sentence is well-formed even though it does not satisfy the equi-subject constraint. Even without such underlined phrases, the sentence is well-formed only if the speaker is making an authoritative conjecture.

We showed in 1.2. that the formative kess has at least two readings: volition and conjecture. When kess in the reading of conjecture is added to the modality constituent of the ill-formed sentences (2b, d), they become well-formed, since the whole sentence has the conjecture reading because of kess. This fact is shown in the following examples:

(4) a. {John, ne}-ka Korea-e ka-ko siph-kess-ta
you Nom Goal go Comp desirous Conj Stat
'(I guess that) John wants / you want to go to Korea.'

b. ne-ka holang-i-ka musəw-kess-ta
you Nom tiger Nom fearful Conj Stat
'(I guess that) you are afraid of tigers.'

Korean has what I call 'conjectural questions', which are equivalent to the English question form 'I wonder ...'. Since this type of question involves conjecture, it is not subject to the equi-subject constraint although it contains a verb of self-judgment, as the followings illustrate:

(5) a. John-ka Mary-ka coh-ɨl-kka
Nom Nom fond-of Ajst-M Ques
'I wonder whether John likes Mary.'

b. Mary-ka kimchi-ka silh-ɨl-kka
Nom Nom not-fond-of Ajst-M Stat
'I wonder whether Mary does not like kimchi.'

A tag question also involves the speaker's conjectural assertion. Thus, a tag question sentence which contains a verb of self-judgment is not subject to the equi-subject constraint. In Korean, the modality form of a tag question is the same as that of the intimate(2) speech level (cf. 1.2.). The attachment of the high-form polite SL yo to the end of a sentence makes it a high-form speech level. In the following, the subject tangsin 'you' is a high form while the subject ne 'you' is a low form.

(6) a. ne-nɨn marijuana-ka silh-ci
you Z-lim Nom not-fond-of Ques
'You do not like marijuana, do you?'

b. tangsin-nɨn marijuana-ka coh-ci-yo
you Z-lim Nom fond-of Ques Pol
'You like marijuana, don't you?'

The tense variation does not affect the generalization observed. In other words, although we use the past tense, if the speaker is not making an authoritative conjecture, a sentence with a verb of self-judgment is anomalous; on the other hand, if the speaker is making such a conjecture, a sentence with a verb of self-judgment is well-formed.[9]

The phenomenon observed above could be formalized as follows in a grammar including a performative analysis:

(7) Formalism for Verbs of Self-judgment

a. $$\begin{bmatrix} +\text{V} \\ +\text{Self-judge} \end{bmatrix} \longrightarrow [\pm \text{ Authoritative Conjecture}]$$

b. $$[-\text{Authoritative Conjecture}] \longrightarrow [+ \text{ SD of END}]$$

This rule says that a verb of self-judgment must meet the structural description of Equi-NP Deletion when it is not used in the sense of authoritative conjecture. Otherwise, a sentence with a verb of self-judgment is ill-formed.

The second situation in which the equi-subject constraint does not apply is verbal compounding by A-HA-construction. Consider the following:

(8) a. * John-ka thokki-ka yeppɨ-ta
Nom rabbit Nom lovely Stat
'John loves rabbits.'
(Do not be misled by the translation)

b. * John-ka hippie-ka pulew-ta
Nom Nom jealous Stat
'John envies hippies.'
(Do not be misled by the translation)

(9) a. John-ka thokki-lɨl yeppɨ-A ha-nɨn-ta
Nom rabbit Acc lovely Comp do Indi Stat
'John loves rabbits.'

b. John-ka hippi-lɨl pulew-A ha-nɨn-ta
Nom Acc jealous Comp do Indi Stat
'John envies hippies.'

The ill-formedness of sentences (8a, b) is due to the violation of the equi-subject constraint with respect to a higher performative subject. The corresponding sentences (9a, b) are well-formed. The only difference is that (8a, b) contain verb of self-judgment while (9a, b) contain compound verb which are composed of verbs of self-judgment plus A-HA. Sentences with compound verbs are not subject to the equi-subject constraint. It should be noted that A-HA occurs only with categories (a, b, and c) in (1). We must ask why such a difference occurs. In 3.1., I argued that in the case of compound verbs, the semantic characteristics of the constituent verb assimilate to those of the matrix verb. The matrix verb ha 'do' is not a verb of self-judgment; therefore, the characteristic of self-judgment of the constituent verb in (a, b) is nullified by being assimilated to the non-self-judgment of the matrix verb ha. This was cited (cf. 3.1.)

as evidence that compound verbs constitute a semantic totality.

The desiderative verb *siph*, however, must be excluded from the generalization that the compound verbs under consideration are not subject to the equi-subject constraint. The thing which is interesting is that the desiderative verb is subject to the non-equi-subject constraint when it co-occurs with *A-HA*. In other words, the speaker and the subject in a statement sentence, and the addressee and the subject in a question sentence must not be coreferential in a sentence with the compound verb *siph-A-ha*. Otherwise, the sentence is anomalous.

(10) a. * na-ka Korea-e ka-kc siph-A ha-nín-ta
I Nom Goal go Comp desirous Comp do Indi Stat
'I want to go to Korea.'
(Do not be misled by the translation)

b. * ne-ka Korea-e ka-ko siph-A ha-nín-ya
you Indi Ques
'Do you went to go to Korea?'

(11) a. ne-ka Korea-e ka-ko siph- A ha-nín-ta
you Nom Goal go Comp desirous Comp do Indi Stat
'You want to go to Korea.'

b. John-ka Korea-e ka-ko siph-A ha-nín-ta
'John wants to go to Korea.'

The anomaly of (10a) is due to the fact that the compound verb *siph-A-ha* has coreferentiality between the speaker and the subject. The anomaly of (10b) is due to the fact that the compound verb has coreferentiality between the addressee and the subject. (11a, b) do not have coreferentiality, thus they are well-formed. This difference between the desiderative verb and the root of the verbs of self-judgement corresponds to a structural difference between them. The desiderative verb always occurs with *KO*-V-Comp; therefore, it is already a compound verb. But the rest of the verbs of self-judgment do not co-occur with KO-V-Comp. When they occur with A-HA, the desiderative verb form a double compound verb while the rest form a single compound verb. Further differences between these two types of verbs of self-judgment will be noted later in this section. The fact that the desiderative verb plus A-HA is subject to the non-equi-subject constraint is formalized as follows:

(12) Non-Equi-Subject Constraint

siph-A-ha $\longrightarrow$ [- SD of END]

To recapitulate the constraints observed above,

(13)	Construction	Constraint
a.	with a verb of self-judgment	Equi-Subject
b.	with a compound verb which is composed of a verb of self-judgment plus A-HA	None
c.	with a compound verb which is composed of the desiderative verb plus A-HA.	Non-Equi-Subject

Now I discuss a problem of synonymity between the construction with a verb of self-judgment and the construction with a compound verb which is composed of a verb of self-judgment plus A-HA. Examples are shown in the following:

(14) Construction with Verb of Self-judgment

a. na-ka Mary-ka coh-ta
I Nom Nom likable Stat
'Mary is likable to me.'

b. na-ka kɨ ai-ka yeppɨ-ta
I Nom the child Nom cute Stat
'The child is cute to me.'

(15) Construction with Compound Verb which is composed of Verb of Self-judgment plus A-HA

a. na-ka Mary-lɨl coh- A-lɨl ha-nɨn-ta
I Nom Acc likable Comp Acc do Indi Stat
'I like Mary.'

b. na-ka kɨ ai-lɨl yeppi- A-lɨl ha-nɨn-ta
I Nom the child Acc cute Comp Acc do Indi Stat
'I love the child.'

Some linguists (cf. Cook, 1968:163, Ree, 1969:102, Lee H-B., 1970:28) have claimed that the two types of constructions are synonymous, and that (14a, b) must be derived from (15a, b), respectively. Contrary to this proposal, I shall present evidence below showing that the two types of construction are not fully synonymous, that they must have separate underlying structures, and that their syntactic behavior is not the same.

At a first glance, (14a, b) and their corresponding sentences (15a, b) look fully synonymous. But if we understand the role structure of the subjects in these sentences, we will clearly perceive semantic difference. The subjects in (14a, b) have the role structure of Experiencer Case while the subjects in (15a, b) have the role structure of Agent Case. I attempted to suggest this difference in the English translations. Such a difference of the role structure is shown in the following sentences. In the construction with a verb of self-judgment, Psych-Movement (cf. Postal, 1968:35-50) (= Experiencer/Object Flip) is possible, but it is not possible in the other type of construction.

(16) Psych-Movement applied to (14)

a. Mary-ka na-eke coh-ta
Nom I Exp likable Stat
'Mary is likable to me.'

b. kɨ ai-ka na-eke yeppɨ-ta
the child Nom I Exp cute Stat
'The child is cute to me.'

(17) Psych-Movement applied to (15)

a. * Mary-ka na-eka coh- A- lɨl ha-nɨn-ta
Nom I Exp likable Comp Acc do Indi Stat
'I like Mary.'

b. * kɨ ai-ka na-eke yeppi-A- lɨl ha-nɨn-ta
the child Nom I Exp cute Comp Acc do Indi Stat
'I love the child.'

Second, we already observed that the first type of construction is subject to the equi-subject constraint while the second type is not.

Third, the formative *kess* behaves differently with the two types of construction. *Kess* in the first type only has the reading of conjecture, while *kess* in the second type has two readings, conjecture and volition.

(18) a. na-ka Mary-ka coh-*kess*-ta
I Nom Nom likable Conj Stat
'It seems that Mary is likable to me.' (Conjecture)

b. na-ka Mary-lɨl coh-A- lɨl ha-*kess*-ta
I Nom Acc likable Comp Acc do Stat
(1) 'I may come to love Mary.' (Conjecture)
(2) 'I will love Mary.' (Volition)

Fourth, the retrospective mood *te* is allowed in the first type, but not in the second.[10]

(19) a. na-ka Mary-ka coh-te-la
I Nom Nom likable Retro Stat
'Mary is always likable to me.'

b. * na-ka Mary-lɨl coh-A- lɨl ha-te-la
I Nom Acc likable Comp Acc do Retro Stat

Fifth, the first type can not be a command sentence, but the second can.

(20) a. * John-A, kɨ ai-lɨl yeppɨ-Ala
Voc the child Acc cute Comm

b. John-A, kɨ ai-lɨl yeppɨ-A-lɨl ha-Ala
Voc the child Acc cute Comp Acc do Comm
'John, love the child!'

The first and the fifth arguments also hold true in Japanese.

(21) Psych-Movement

a. sono kodomo-ga watakusi-ni kawaii
the child Nom I Exp cute
'The child is cute to me.'

b. * sono kodomo-ga watakusi-ni kawaii-garu
the child Nom I Exp cute do

Command Sentence

c. * John, sono kodomo-ga kawaii-re
Voc the child Nom cute Comm

d. John, sono kodomo-o kawaii-ga-re
Voc the child Acc cute do Comm
'John, love the child!'

I claim that the two types of construction in Japanese also must have separate underlying structures.

Now we discuss Special Case Marking and Psych-Movement with regard to verbs of self-judgment. Notice that in sentences (14a, b) the two NP's have the same case marker. The applicability of Psych-Movement to (14a, b) shows that the case frame for verbs of self-judgment is + [E, O ___]. NCM-b says that Object Case must be assigned Acc if it is not the surface subject (cf. 2.1.). However, Object Case must be assigned the Nominative marker instead of the Accusative marker in sentences with verbs of self-judgment. Thus, we are required to postulate Special Case Marking in order to account for this phenomenon. We must note that SCM is required for the construction with a verb of self-judgment, and that Psych-Movement optionally applies to the construction.

Interestingly enough, the desiderative verb siph (cf. tai in Japanese) again behaves differently from the rest of the verbs of self-judgment. A sentence with the desiderative verb does not need SCM, as the following shows:

(22) na-ka [banana- {ka, lɨl} mok]-ko- {ka, lɨl}
I Nom Nom Acc eat Comp Nom Acc

siph-ta
desirous Stat
'I want to eat bananas.'

This sentence shows that the desiderative construction involves variation of case markers which will be discussed in (3.5.). The desiderative construction is not subject to Psych-Movement either, as the following shows:

(23) Psych-Movement applied to (22)

* [banana- {ka, lɨl} mok]-ko- {ka, lɨl}
Nom Acc eat Comp Nom Acc

na-eke siph-ta
I Exp desirous Stat

We already asked why the desiderative verb behaves differently from the rest of verbs of self-judgment. This difference is related to two facts: (1) the desiderative verb occurs only with KO-V-Comp; therefore, the desiderative construction is already an embedded sentence as verbal complementation, and (2) the SCM under discussion and Psych-Movement apply only to simplex sentences or complex sentences of nominal complementation (excluding verbal complementation). These two facts are not compatible with each other. From this observation, it becomes clear that the desiderative construction is already a complex verbal complementation sentence. The fact that the

SCM under discussion and Psych-Movement apply only to constructions of nominal complementation, but not to constructions of verbal complementation, is shown in the following sample examples:

(24) Psych-Movement in Verbal Complementation

a. na-ka [mango-lɨl coh]-A-lɨl ha-nɨn-ta (Basic)
I Nom Acc likable Comp Acc do Indi Stat
'I like mangoes.'

b. * [mango-lɨl coh]-A-lɨl na-eke ha-nɨn-ta
I Exp

Psych-Movement in Nominal Complementation

c. na-ka [John-ka Korea-lɨl ttena-nɨn]-kes-ka
I Nom Nom Acc leave Ajst-M Comp Nom

sepsep-ha-ta (Basic)
sorrowful Stat
'I am sorry that John will leave Korea.'

d. [John-ka Korea-lɨl ttena-nɨn]-kes-ka
Nom Acc leave Ajst-M Comp Nom

na-eke sepsep-ha-ta
I Exp sorrowful Stat
'I am sorry that John will leave Korea.'

Before formulating the relevant rules, we need to observe a certain type of adjectival verb, which behaves the same as verbs of self-judgment. Consider the following sentences:

(25) a. John-ka Mary-ka philyo-ha-ta
Nom Nom necessary Stat
'Mary is necessary to John.'

b. i noin-ka him-ka pucok-ha-ta
this old-man Nom energy Nom lack Stat
'This old man is short of energy.'

c. John-ka suhak-ka swiw-ta
Nom math Nom easy Stat
'Math is easy for John.'

d. Mary-ka kɨ il-ka kaning-ha-ta
Nom that work Nom possible Stat
'The work is possible for Mary to do.'

The adjectival verbs in (26) all require the same case marker for the two NP's. Let us call them verbs of 'semi-self-judgment' (the reason will be provided later). We cite some of such verbs below:

(27) Verbs of Semi-self-judgment

philyo-ha 'necessary, pul-philyo-ha 'unnecessary',
chungpun-ha 'enough', pucok-ha 'short of',
kaning-ha 'possible', pul-kaning-ha 'impossible',
swiw 'easy', olyew 'difficult', ...

These verbs also are subject to Psych-Movement. Sentences (26) are repeated in (28) with this rule applied:

(28) a. Mary-ka John-eke philyo-ha-ta
Nom Exp necessary Stat
'Mary is necessary to John.'

b. him-ka i noin-eke pucok-ha-ta
energy Nom this old-man Exp lack Stat
'This old man is short of energy.'

c. suhak-ka John-eke swiw-ta
math Nom Exp easy Stat
'Math is easy for John.'

d. kɨ il-ka Mary-eke kaning-ha-ta
that work Nom Exp possible Stat
'The work is possible for Mary to do.'

A question must be raised as to why the verbs of self-judgment and the verbs cited in (27) behave the same with regard to the SCM under discussion and Psych-Movement. It seems to me that verbs (27) are in between verbs of self-judgment and verbs of non-self-judgment. For example, whether a certain thing is easy or difficult for somebody cannot be decided on an absolutely objective basis; the final judgment depends on somebody (i.e. the speaker or the subject of the sentence). In this respect, I call verbs (27) verbs of semi-self-judgment, although this is not a felicitous term. Both types of verbs have the case frame + [E, O ___].

Now we formulate the SCM and Psych-Movement:

(29) SCM for Constructions with Verb of Semi-Self- or Self-judgment (obl)

$$\text{SD: } [\text{NP} + \text{K}]_E + [\text{NP} - \text{Acc}]_O - X + \begin{bmatrix} V \\ \left\{ \begin{matrix} [\text{+Self-judge}] \\ \begin{bmatrix} \text{+Semi-self-} \\ \text{judge} \end{bmatrix} \end{matrix} \right\} \end{bmatrix} + Y$$

1 2 3

$$\text{SC: } 1, 2, 3 \Longrightarrow 1, \text{Nom}, 3$$

where: O(bject) must not be V-Comp.

(30) Psych-Movement (opt)

$$\text{SD: } [\text{NP} + \text{K}]_E - [\text{NP} + \text{K}]_O - X + \begin{matrix} V \\ \left\{ \begin{matrix} [\text{+Self-judge}] \\ \begin{bmatrix} \text{+Semi-self-} \\ \text{judge} \end{bmatrix} \end{matrix} \right\} \end{matrix} + Y$$

1 2 3

$$\text{SC: } 1, 2, 3 \Longrightarrow 2, 1, 3$$

where: O(bject) must not be V-Comp.

There are sentences where the first NP has the Experiencer marker instead of the Nominative marker. We can account for such a phenomenon by Free Scrambling (cf. 2.5.). Here are some sample derivations:

(31) Verbs of Self-judgment

a. na-ka Mary-ka yeppi-ta (by SCM-29)
I Nom Nom lovely Stat
'Mary is lovely to me.'

b. Mary-ka na-eke yeppi-ta (by Psych-Movement)
Nom Exp

c. na-eke Mary-ka yeppi-ta (by Free Scrambling)
Exp Nom

d. * Mary-ka na-ka yeppi-ta (by Free Scrambling applied to (a))
Nom Nom
'I am lovely to Mary.'
(in the reading of authoritative conjecture)

Sentences (31a, b, c) are synonymous. (31d) is well-formed only in the reading of authoritative conjecture, but it is not synonymous with the rest. Free Scrambling is blocked if more than one NP has the same case marker (cf. 2.5.).

Since the desiderative verb siph is not subject to the above rules, we need the following redundancy rules and lexical specification:

(32) Redundancy Rules

1. $\begin{bmatrix}+\text{V}\\ +\text{Self-judge}\end{bmatrix} \longrightarrow [\pm\text{Desiderative}]$

2. $\left\{\begin{matrix}[-\text{Desiderative}]\\ [+\text{Semi-self-judge}]\end{matrix}\right\} \longrightarrow \begin{bmatrix}+\text{SCM-29}\\ \pm\text{Psych-Movement}\end{bmatrix}$

3. $[+\text{V}] \longrightarrow \begin{bmatrix}-\text{SCM-29}\\ -\text{Psych-Movement}\end{bmatrix}$

Lexical Specification

siph 'desirous'

$\begin{bmatrix}+\text{V}\\ +\text{Desiderative}\\ \pm\text{Self-judge}\end{bmatrix}$

3.4. Multiplication of Case Markers

We observed the phenomenon of multiplication of case markers in the macro-micro relation (cf. 2.2.) and in constructions with verbs of self-judgment and verbs of semi-self-judgment (cf. 3.3.). In the case of complex sentences, this phenomenon is usually not interesting since it is an automatic consequence of embedding. However, the construction with a verb of self-judgment plus A-HA (i.e. A-V-Comp and the pro-verb ha) behaves in an interesting way. In this section, we will observe this phenomenon and illustrate it systematically. In addition, verbs of existence will be discussed as an example of multiplication of case markers in a simplex sentence.

Consider the following sentences:

(1) Verb of Self-judgment

a. na-ka Mary-ka kwiyow-ta
I Nom Nom lovely Stat
'Mary is lovely to me.'

b. na-ka hippie-ka silh-ta
I Nom Nom unlikable Stat
'Hippies are unlikable to me.'

c. na-ka wisonca-ka miuw-ta
I Nom hypocrite Nom unpleasent Stat
'Hypocrites are unpleasant to me.'

(2) Verb of Self-judgment plus A-HA

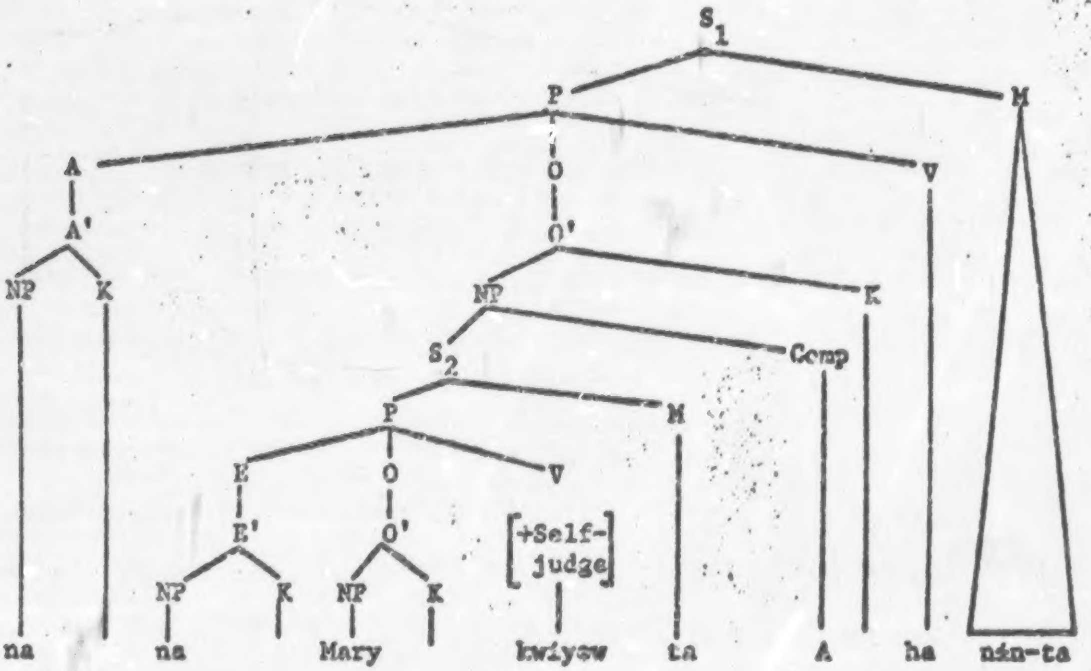
a. na-ka Mary-lɨl kwiyew-A-lɨl ha-nɨn-ta
I Nom Acc lovely Comp Acc do Indi Stat
'I love Mary.'

b. na-ka hippie-lɨl silh-A-lɨl ha-nɨn-ta
I Nom Acc unlikable Comp Acc do Indi Stat
'I do not like hippies.'

c. na-ka wisonca-lɨl miuw-A-lɨl ha-nɨn-ta
I Nom hypocrite Acc unpleasant Comp Acc do Indi Stat
'I hate hypocrites.'

Notice that in sentences (1) the Nominative marker occurs twice in simplex sentences, and that in the corresponding sentences (2) the Accusative marker occurs twice. What attracts our special attention is the variation of case markers: namely, the Nominative marker for the second NP in (1) is changed into the Accusative marker in (2). In what follows, I will take sentence (2a) as a sample example in order to explain the phenomena indicated above.

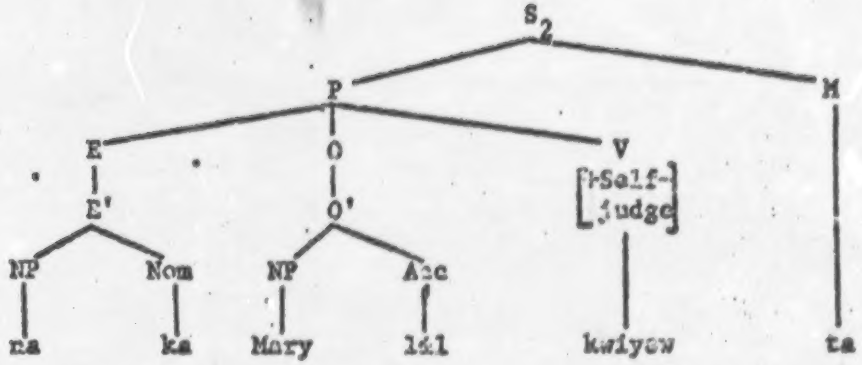
(3) (underlying)


S1
P
M
A
O
V
A'
O'
NP
K
NP
K
S2
Comp
P
M
E
O
V
E'
O'
+Self-judge
NP
K
NP
K
na
na
Mary
kwiysw
ta
A
ha
nin-ta

If we apply Psych-Movement (opt) on the S2-cycle, Equi-NP Deletion is blocked on the S1-cycle. If we do not apply Psych-Movement on the S2-cycle, the next rule is NCM.

NCM-a (i.e. subject marking) replaces K under E(xperiencer) by Nom, and NCM-b (i.e. non-subject marking) replaces K under O(bject) by Acc, yielding the following structure.

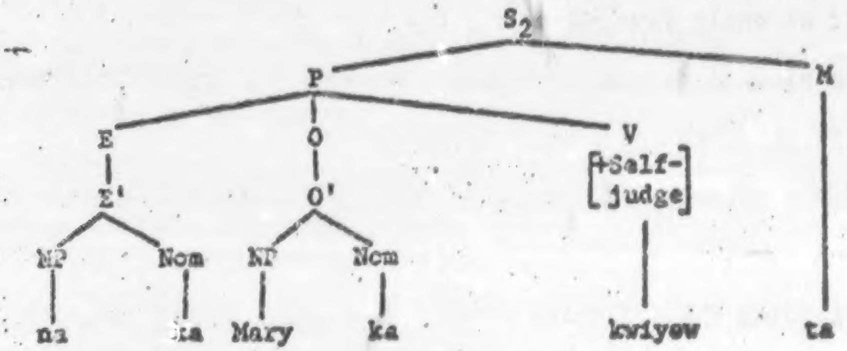
(4)


S_2
P
M
E
O
V
[+Self-judge]
E'
O'
NP
Nom
NP
Acc
na
ka
Mary
lɨl
kwiyew
ta

* /// na-ka Mary-lɨl kwiyew-ta ///

Output (4) is not yet correct; the second NP must have the Nominative marker on the surface. The next rule is SCM for the construction with verbs of self-judgment, which obligatorily changes the Accusative marker into the Nominative marker, yielding the following structure.

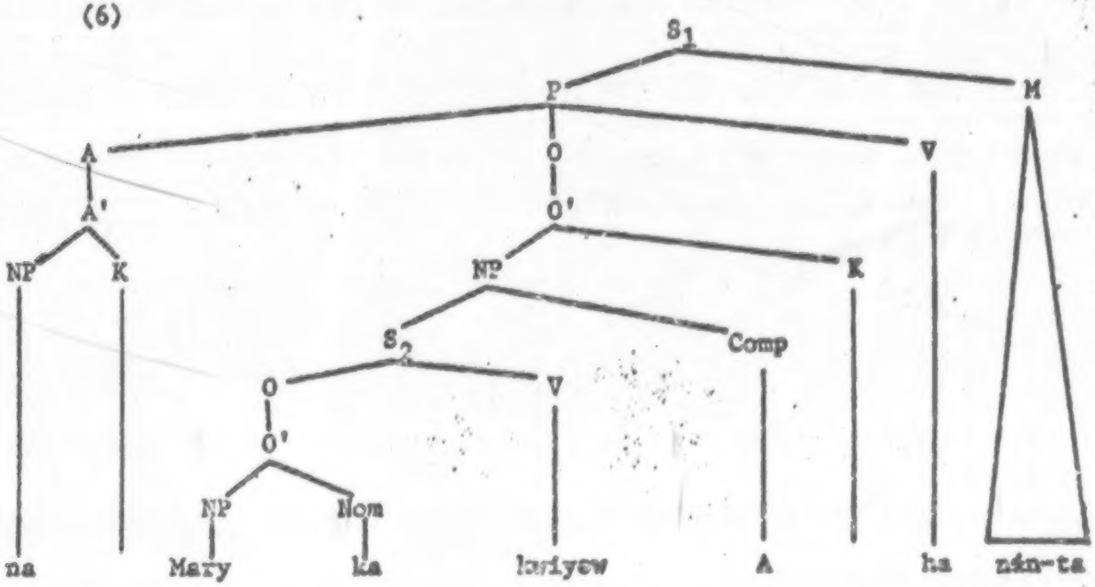
(5)


S_2
P
M
E
O
V
[+Self-judge]
E'
O'
NP
Nom
NP
Nom
na
ka
Mary
ka
kwiyew
ta

/// na-ka Mary-ka kwiyew-ta ///

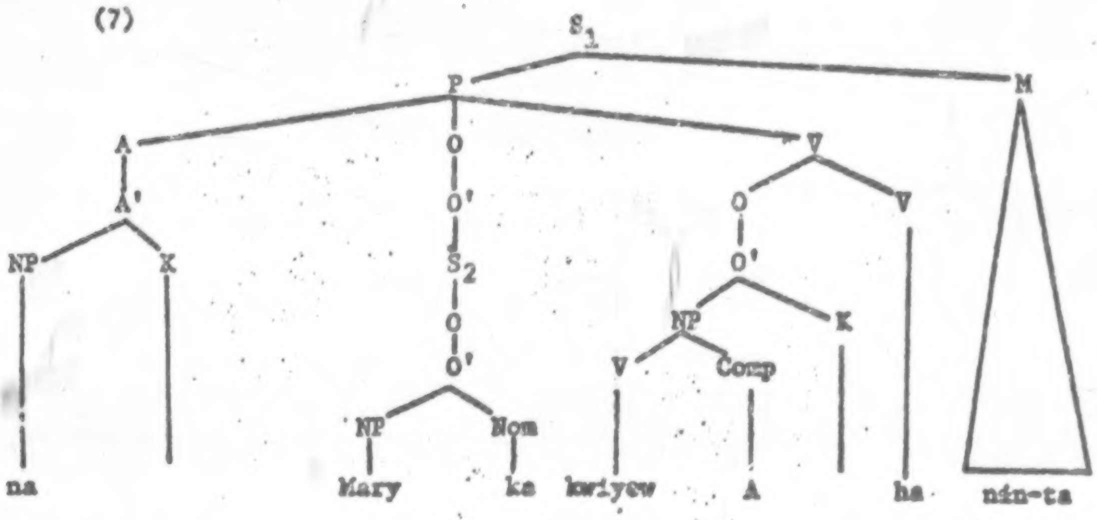
On the S1-cycle Equi-NP Deletion deletes E(xperiencer) of the S2. Modality Adjustment cannot apply since the P-Marker has a type of verbal complementation. Modality Deletion deletes the modality of the S2, yielding the following structure.

(6)


S1
P
M
A
O
V
A'
O'
NP
K
NP
K
S2
Comp
O
V
O'
NP
Nom
na
Mary
ka
kwiyew
A
ha
nín-ta

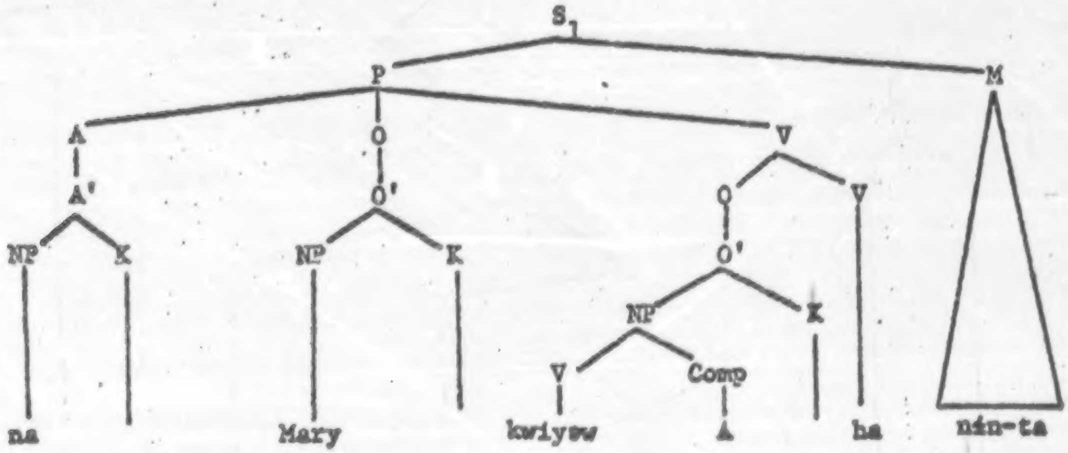
Predicate Raising obligatorily raises the constituent verb, the complementizer, and K to the matrix verb, forming a compound verb kwiyew-A-ha 'love'.

(7)


S1
P
M
A
O
V
A'
O'
O
V
NP
K
S2
O'
O
NP
K
O'
V
Comp
NP
Nom
na
Mary
ka
kwiyew
A
ha
nín-ta

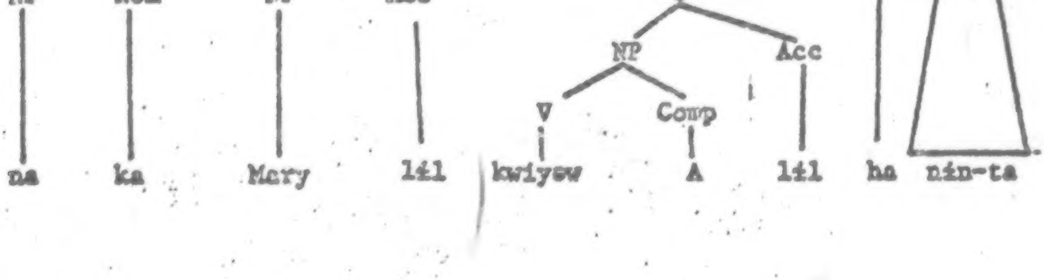
Predicate Raising, Argument Raising, and Nominative Nullification are conjunctively ordered. If Predicate Raising applies, Argument Raising must apply, which raises the nominative-marked NP under the node P. Nominative Nullification obligatorily erases the Nominative marker under O(bject). Now we have the following structure.

(8)


S_1
P
M
A
O
V
A'
O'
O
V
NP
K
NP
K
O'
NP
K
V
Comp
na
Mary
kwiysw
A
ha
nín-ta

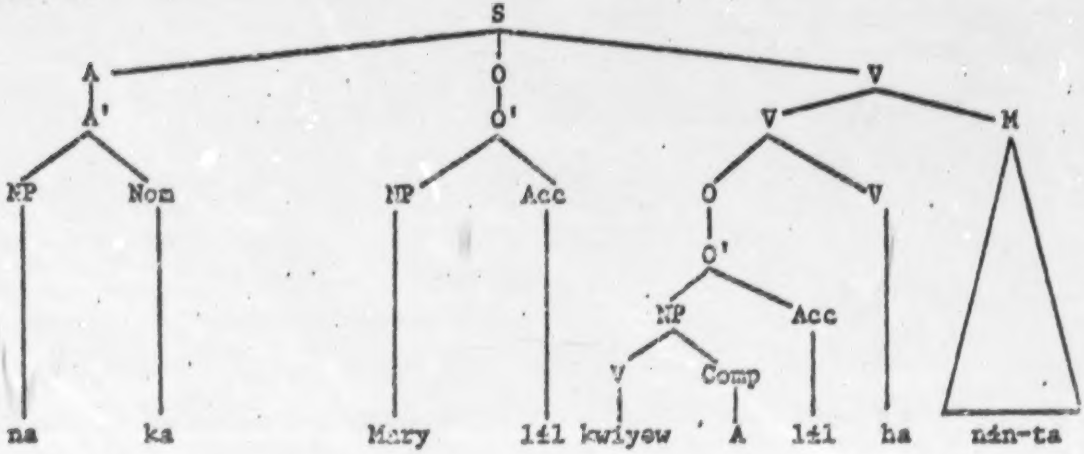
NCM-a replaces K under A(gent) by Nom, and NCM-b replaces K's under O's by Acc's, yielding the following structure.

(9)


S_1
P
M
A
O
V
A'
O'
O
V
NP
Nom
NP
Acc
O'
NP
Acc
V
Comp
na
ka
Mary
lɨl
kwiysw
A
lɨl
ha
nín-ta

Now we apply the post-cyclical rules (cf. 2.5.). Modality Lowering obligatorily lowers the modality to the verb, yielding the following structure.

(10)



/// na-ka Mary-lɨl kwiyew-A-lɨl-ha-nɨn-ta ///

This output is the correct one. We have shown how case markers are systematically assigned. Case Marker/Delimiter Permutation (opt) and Affected Case Marker Deletion (obl) can not apply since we did not choose delimiters from PS (5). The next rule is Case Marker Deletion (opt), which optionally deletes the Nominative and Accusative markers from (10).

(11) /// na- Mary- kwiyew-A- ha-nɨn-ta ///

Free Scrambling (opt) can not apply since case markers are now deleted (11). If we did not apply CMD (opt), we can optionally apply Free Scrambling, yielding (12).

(12) a. /// Mary-lɨl na-ka kwiyew-A-lɨl-ha-nɨn-ta ///

b. /// kwiyew-A-lɨl-ha-nɨn-ta na-ka Mary-lɨl ///

. . .

Suppose we chose some delimiters from PS (5):

(13) * /// na-ka-to Mary-lɨl-nɨn kwiyew-A-lɨl-ya ha-nɨn-ta ///
Z-lim Z-lim Z-lim
'also' 'of course'
'Of course I also love Mary.'

(13) is not yet a correct output. The Nominative and Accusative markers may be optionally permuted with X-and Y-delimiters by Case Marker/Delimiter Permutation (opt) (cf. 2.4.). Since we have only Z-delimiters, this rule can not apply. Affected Case Marker Deletion (obl) obligatorily deletes the Nominative and Accusative markers before all delimiters, yielding (14).

(14) /// na-to Mary-nɨn kwiyew-A-ya-ha-nɨn-ta ///

Case Marker Deletion and Free Scrambling can not apply since there is no case marker left in (14).

Now we deal with the multiplication of case markers in constructions with verbs of existence, which include the following:

(15) Verbs of Existence

iss 'exist, have', eps 'not exist, have not',

manh 'exist a lot', cək 'exist a few/a little', ...

Consider the following sentences:

(16) a. Mary-ka melyək-ka iss-ta
Nom attraction Nom exist Stat
'Mary is attractive.'

b. John-ka chek-ka eps-ta
Nom book Nom not-exist Stat
'John has no books.'

c. Korea-ka ssal-ka manh-ta
Nom rice Nom exist-a-lot Stat
'Korea has a lot of rice.'

d. Korea-ka kwahakca-ka cək-ta
Nom scientist Nom exist-a-few Stat
'Korea does not have many scientists.'

Note that the two NP's have the same case marker. In order to systematically derive case marking, we must decide the case frame first. To decide the case frame we need to consider the following corresponding sentences, which are synonymous with sentences (16).

(17) a. melyok-ka Mary-eke-e iss-ta
attraction Nom Loc exist Stat
(Lit.) 'Attraction exists in Mary.'
'Mary is attractive.'

b. chek-ka John-eke-e əps-ta
book Nom Loc not-exist Stat
(Lit.) 'Books do not exist with John.'
'John has no books.'

c. ssal-ka Korea-e manh-ta
rice Nom Loc exist-a-lot Stat
(Lit.) 'Rice exists a lot in Korea.'
'Korea has a lot of rice.'

d. kwahakca-ka Korea-e cək-ta
scientist Nom Loc exist-a-few Stat
(Lit.) 'Scientists do not exist a lot in Korea.'
'Korea does not have many scientists.'

The two NP's in sentences (16) are permuted in (17). Sentences (17) show that the second NP is Location and the first NP is Object. Now we must choose the case frame out of + [O, L ___] and + [L, O ___].[11] I assume that the former is the underlying case frame on the basis of the subject choice hierarchy. Note that the Location marker e is used with non-human NP's while eke-e is used with human NP's. Usually eke-e becomes eke (cf. 2.1.).

The correct case markers for (17) can be assigned by applying NCM to the underlying case frame of + [O, L ___]. However, we can not assign the correct case markers for (16) which have the order of Location and Object. In order to account for this fact, we must postulate Obj/Loc Flip (opt).

(18) *Obj/Loc Flip* (opt)

SD: $[NP + K]_O$ - $[NP + K]_L$ - $X + \underset{[+Exist]}{V}$ + Y

1 2 3

SC: $1, 2, 3 \Longrightarrow 2, 1, 3$

When we apply this rule to (17), we have sentences (16). Notice that the second NP which is Object has the Nominative marker instead of the Accusative marker. We need SCM to assign the correct case marker for (16).

(19) *SCM for Construction with Verb of Existence* (obl)

SD: $[NP + K]_L + [NP - Acc]_O$ - $X + \underset{[+Exist]}{V}$ + Y

SC: $1, 2, 3 \Longrightarrow 1, Nom, 3$

Verbs of existence require some further comment. In the above discussion, I regarded all the verbs of existence cited in (15) as verbs which compose semantic primes. However, as the English translations suggests, they are not semantic primes except for *iss* 'exist'. Put differently, the verb *iss* 'exist' is a semantic prime, whereas *manh* 'exist a lot', cək 'exist a few/a little', əps 'not exist' are semantically decomposable. Although *manh* and *cək* are often glossed as *many* and *few* respectively, they are syntactically different from the corresponding English words in their ability to occur as predicates:

(20) *English*

a. * (certain) men were *many*.

Korean

b. (ətten) salam-tɨl-ka manh-Ass-ta
certain man Pl Nom exist-a-lot Past Stat
'There were many people.'

Japanese

c. (aru) hito-tati-ga oo-kat-ta
certain man Pl Nom exist-a-lot Past Stat
'There were many people.'

In English, if the subject is indefinite, the predicate can not be a numeral. However, in Korean (and in Japanese) that is not the case. (20b, c) are, I feel, grammatical though they sound much more natural with Location Cases included:

(21) a. (ətten) salam-tɨl-ka kəli-e manh-kun
certain man Pl Nom street Loc exist-a-lot Apper
'There are many people in the street.'

b. (ətten) yəca-tɨl-ka go-go-dance-cang-e manh-kun
certain girl Pl Nom place Loc exist-a-lot
'There are many girls at the go-go dance place.'

c. (ətten) əlɨn-tɨl-ka yəph-e manh-Ass-ɨna
certain adult Pl Nom beside Loc exist-a-lot Past but

mul-e ppaci-ɨn əlin-ɨi hana-lɨl
water Loc drowned child one Acc

mos ku-ha- tə-la
not save Retro Stat
'There were many adults at hand, but they could not save one drowned child.'

3.5. Variation of Case Markers

By variation of case markers, I mean that the same NP can occur with more than one case marker in a given sentence. This phenomenon has two types; one is free variation and the other is systematic variation. In 2.5., we observed that certain case markers are optionally replaced by the Accusative marker (i.e. Accusative Intrusion) without affecting the original meaning. This is one instance of free variation. In 3.4., we observed one instance of systematic variation in the construction which has a verb of self-judgment plus *A-HA*. In this section, we will discuss some examples of free variation in some complementation constructions.

First, we discuss the variation of case markers in the construction which has a verb of self-judgment as a matrix verb. In 3.2. and 3.3., we observed that the desiderative verb which is a type of verb of self-judgment occurs only with *KO*-V-Comp. In the desiderative construction, certain case markers are in free variation with the Nominative marker. Certain verbs of self-judgment co-occur with *KI*-N-Comp (cf. table (1) in 3.2.). In this type of construction, the same type of free variation of case markers occurs.

Observe the following sentences, where the underlined case markers are assigned by NCM:

(1) a. na-ka [Korea- {*e*, ka} ka]-ko- {*lɨl*, ka}
I Nom Goal Nom go Comp Acc Nom

siph-ta
desirous Stat
'I want to go to Korea.'

b. na-ka [mango- {*lɨl*, ka} mek]-ko- {*lɨl*, ka}
I Nom Acc Nom eat Comp Acc Nom

siph-ta
desirous Stat
'I want to eat mangoes.'

The data show that case markers such as inanimate Goal and Accusative markers are optionally replaced by the Nominative marker without affecting the original meaning.

The above generalization is, however, an over-simplification. There are rather complex constraints. Let us take the Goal marker as a sample. The Goal marker is not replaceable by the Nominative marker (1) if it is the animate Goal marker, (2) if the sentence contains a verb of unidirectional movement (cf. 2.5.), or (3) if the sentence already contains the Accusative marker. These facts are shown in the following examples:

(2) Animate Goal Marker

a. na-ka [John- {eke, *ka} ka]-ko- {lɨl, ka} siph-ta
I Nom Goal Nom go Comp Acc Nom desirous
'I want to go to John.'

Verb of Unidirectional Movement

b. na-ka [Seoul- {lo, *ka} ttena]-ko- {lɨl, ka} siph-ta
I Nom Goal Nom leave Comp Acc Nom desirous
'I want to leave for Seoul.'

Transitive Construction

c. na-ka [mango- {lɨl ka} Korea- {e, *ka}
I Nom Acc Nom Goal Nom

pone]-ko- {lɨl, ka} siph-ta
send Comp Acc Nom desirous Stat
'I want to send mangoes to Korea.'

At this point in our discussion, we must note that the constraints on nominative replaceability of the Goal marker exactly correspond to the constraints on accusative intrudability of the Goal marker (cf. table (12) in 2.5.). Furthermore, any case marker which is replaceable by the Accusative marker (i.e. Accusative Intrusion) is also replaceable by the Nominative marker in the desiderative construction. We already indicated that nominative replaceability is not confined only to the desiderative construction; the constructions which have verbs of self-judgment and KI-N-Comp are also subject to nominative replaceability. This fact is shown in the following examples:

(3) a. na-nɨn [Fiji- {e, lɨl, ka} ka]-ki-ka silh-ta
I Z-lɨm Goal Acc Nom go Comp Nom not-fond
'I do not like to go to Fiji.'

b. na-nɨn [mango- {lɨl, ka} mək]-ki-ka silh-ta
I Z-lɨm Acc Nom eat Comp Nom not-fond
'I do not like to eat mangoes.'

In 2.5., we captured an interesting implicational relation between Accusative Intrusion and Case Marker Deletion (cf. (16) in 2.5.), which says that if a case marker is optionally replaceable by the Accusative marker (i.e. Accusative Intrusion), then the case marker is also optionally deletable. Interestingly enough, the source of replaceability of certain case markers by the Nominative marker in the constructions under discussion can be reduced uniquely to the Accusative marker. Let us show this implication in the following:[12]

(4) Implicational Relation between Accusative Replaceability and Nominative Replaceability

If a case marker is optionally replaceable by the Accusative marker (i.e. Accusative Intrusion), then the case marker (including the Accusative marker) is optionally replaceable by the Nominative marker (i.e. Nominative Intrusion) in certain constructions with verbs of self-judgment.

As we already indicated in 2.5., this implication is not accidental at all. Replaceability of certain case markers by the Accusative or Nominative marker in certain constructions is allowed within the scope of the optional deletion of case markers. This means that the replaced case markers have low functional load in the construction specified.

Now formulation of the observations above is in order. Since the source of nominative replaceability is reduced uniquely to the Accusative marker, we can simplify Nominative Intrusion as follows:

(5) Nominative Intrusion (opt) (to be expanded in 21)

$$\begin{array}{llllll} \text{SD:} & U + [W + & [NP - Acc]_C & - X]_S + Comp + Y + \underset{\left[\begin{array}{c}\text{+Self-}\\ \text{judge}\end{array}\right]}{V} & + Z \\ & \quad 1 & \quad 2 & \quad\quad 3 & \end{array}$$

$$\text{SC: } 1, 2, 3 \Longrightarrow 1, Nom, 3$$

where: Comp refers to KO-V-Comp or KI-N-Comp.

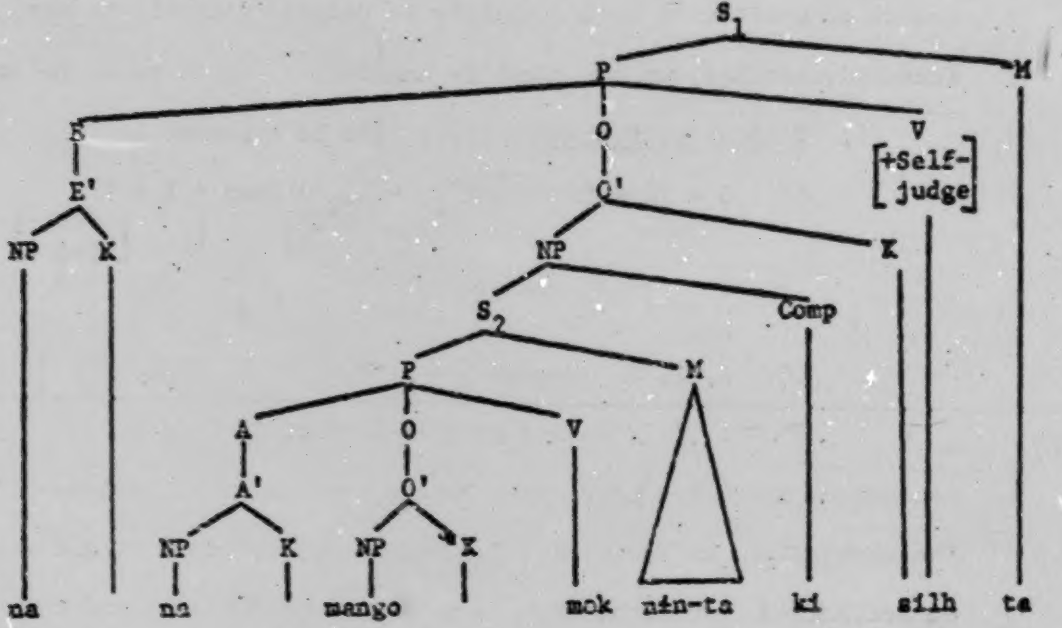
Accusative Intrusion must apply before Nominative Intrusion. Since the constraints on Nominative Intrusion corresponds to the constraints on Accusative Intrusion, we have only to expand the second term of the SC of (14) in 2.5. to the effect that the second term includes [-Accusative Intrusion] and [-Nominative Intrusion]:

(6) Constraints on Nominative Intrusion

Add [-Nominative Intrusion] to the second term of SC of (14) in 2.5. Movement transformations of (15) in 2.5. and Nominative Intrusion are disjunctively ordered.

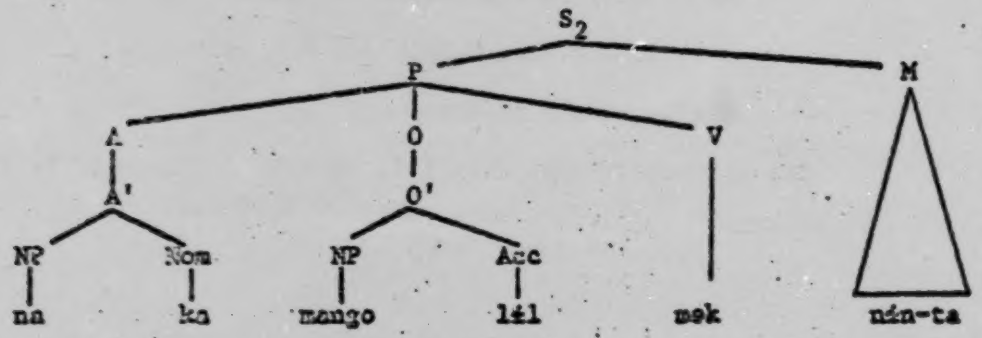
For illustration of rule (5), we take sentence (3b).

(7) (underlying)


S1
P
M
E
O
V
+Self-judge
E'
O'
NP
K
NP
K
S2
Comp
P
M
A
O
V
A'
O'
NP
K
NP
K
na
na
mango
mok
nɨn-ta
ki
silh
ta

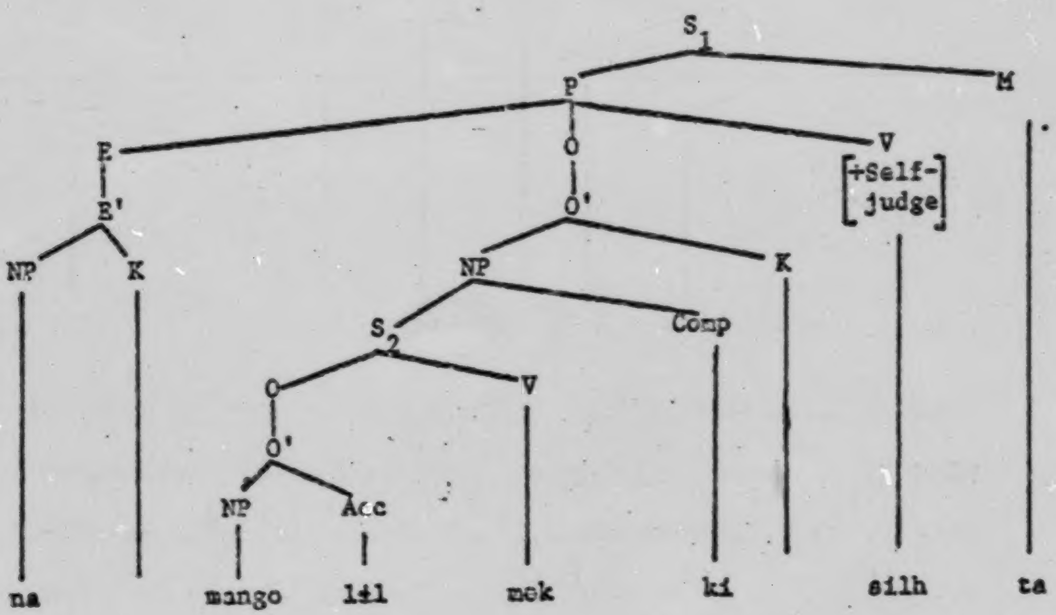
On the S2-cycle, NCM-a (i.e. subject marking) replaces K under A(gent) by Nom, and NCM-b (i.e. non-subject marking) replaces K under O(bject) by Acc, yielding the following structure.

(8)


S2
P
M
A
O
V
A'
O'
NP
Nom
NP
Acc
na
ka
mango
lɨl
mek
nɨn-ta

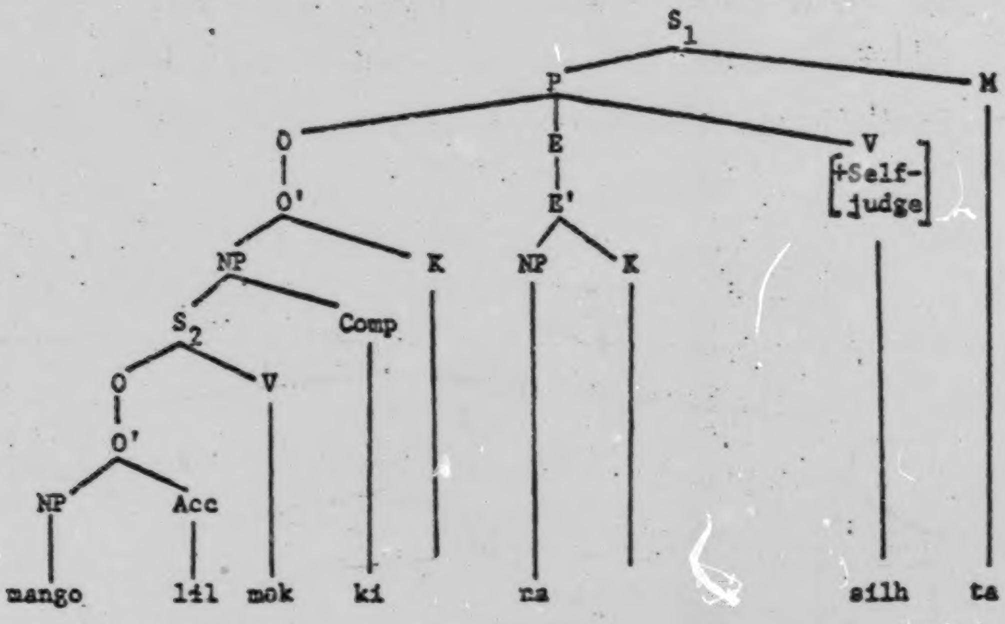
On the S1-cycle, Equi-NP Deletion deletes A(gent) of the S2. Modality Adjustment does not apply. Modality Deletion deletes the modality of the S2. Predicate Raising, Argument Raising and Nominative Nullification can not apply since the structure has nominal complementation. Now we have the following structure.

(9)


S_1
P
M
E
O
V
[+Self-judge]
E'
O'
NP
K
NP
K
S_2
Comp
O
V
O'
NP
Acc
na
mango
lɨl
mek
ki
silh
ta

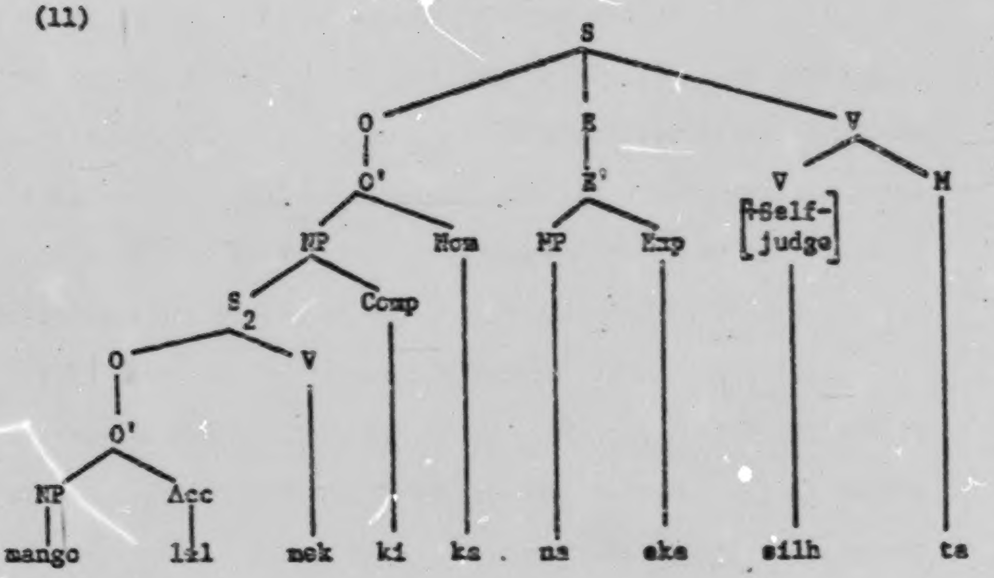
Psych-Movement optionally permutes Experiencer Case and Object Case, yielding the following structure.

(10)


S1
P
M
O
E
V
[+Self-judge]
O'
E'
NP
K
NP
K
S2
Comp
O
V
O'
NP
Acc
mango
lil
mok
ki
na
silh
ta

NCM-a (i.e. subject marking) replaces K under O(bject) by Nom, and NCM-b (i.e. non-subject marking) replaces K under E(xperiencer) by Exp. Modality Lowering which is one of the post-cyclical rules obligatorily lowers the modality to the verb. Now we have the following structure, which is one of the correct outputs.

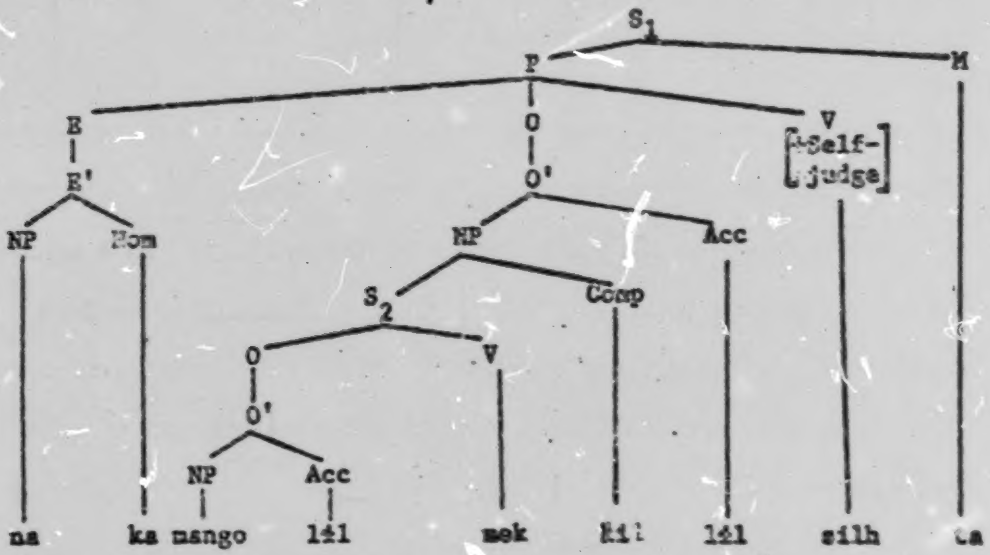
(11)


S
O
E
V
O'
E'
V
M
NP
Nom
NP
Exp
+Self-judge
S2
Comp
O
V
O'
NP
Acc
mango
lɨl
mek
ki
ka
na
eke
silh
ta

/// mango-lɨl mek-ki-ka na-eke silh-ta ///

If we do not apply Psych-Movement (opt) to (9), the next rule is NCM. NCM-a replaces K under E(xperiencer) by Nom, and NCM-b replaces K under O(bject by Acc, yielding the following structure.

(12)


S1
P
M
E
O
V
E'
O'
+Self-judge
NP
Nom
NP
Acc
S2
Comp
O
V
O'
NP
Acc
na
ka
mango
lɨl
mek
ki
lɨl
silh
ta

* /// na-ka mango-lɨl mek-ki-lɨl silh-ta ///

The output (12) is not yet well-formed since the Object Case (= KI-N-Comp here) must have the Nominative marker instead of the Accusative marker in constructions which have verbs of self-judgment. SCM for constructions with verbs of self-judgment (cf. (29) in 3.3.) obligatorily replaces the Accusative marker by the Nominative marker, yielding the following, which is one of the correct outputs.

(13) /// na-ka mango-lɨl mək-ki-ka silh-ta ///

Nominative Intrusion (opt) optionally replaces the Accusative marker in the embedded sentence by the Nominative marker. We ignore the post-cyclical rules here.

(14) /// na-ka mango-ka mək-ki-ka silh-ta ///

If we chose some delimiters from PS (5), we might have the following outputs for example:

(15) $$/// \ \text{na-}\left\{\begin{bmatrix}\text{nɨn}\\ \text{to}\\ \text{ya}\\ \text{na}\\ \text{lato}\\ \cdot\\ \cdot\\ \cdot\end{bmatrix}\right\} \ \text{mango-}\left\{\begin{bmatrix}\text{nɨn}\\ \text{to}\\ \text{ya}\\ \text{na}\\ \text{lato}\\ \cdot\\ \cdot\\ \cdot\end{bmatrix}\right\} \ \text{mək-ki-}\left\{\begin{bmatrix}\text{nɨn}\\ \text{to}\\ \text{ya}\\ \text{na}\\ \text{lato}\\ \cdot\\ \cdot\\ \cdot\end{bmatrix}\right\} \ \text{silh-ta} \ ///$$

We now turn to the construction of KI-N-Comp with swiw/əlyəw.[13] These adjectival verbs have two readings: 'easy/difficult' and 'likely/unlikely' (cf. Cook, 1968:124, Song, 1970). In a construction where these verbs have the 'likely/unlikely' reading, no free variation of case markers occurs. However, in a construction where they have the 'easy/difficult' reading, free variation of case markers occurs.

First of all, we must distinguish the case frames for the two readings. As the data readily shows, they have the following case frames:

(16) a. *swiw/olyew* 'easy/difficult' b. 'likely/unlikely'
$+ [\ E;\ [S]_0,\ \underline{\quad}\ ]$ $+ [\ [S]_0,\ \underline{\quad}\ ]$

The following sentence is two-ways ambiguous:

(17) apeci-ka o-si-ki-ka swiw/olyew-ta
father Nom come Hon Comp Nom easy/difficult Stat

(1) 'It is easy/difficult for Father to come.'

(2) 'It is likely/unlikely that Father will come.'

The two readings are represented in the following underlying representations:

(18) *easy/difficult*

a. apeci-ka [o- si]-ki-ka swiw/olyew-ta
father Nom come Hon Comp Nom

likely/unlikely

b. [apeci-ka o- si]-ki-ka swiw/olyew-ta
father Nom come Hon Comp Nom

The difference between (18a) and (18b) is that the initial NP *apeci* is outside the embedded sentence in (18a), while it is inside the embedded sentence in (18b). This underlying difference will be confirmed by the 'honorific test'. The optional existence of the honorific *si* (which becomes *isi* after consonants) requires the subject to be a human NP. The honorific will not be allowed if the matrix subject is a sentential complement, since a sentential complement can not be a human NP.

Let us insert the honorific formative into the matrix verbs of (18a, b) and show them in the following:

(19) easy/difficult

a. apoci-ka [o-si]-ki-ka swiw/olyew-si-ta
Hon

likely/unlikely

b. * [apoci-ka o-si]-ki-ka swiw/olyew-si-ta
Hon

(19a) shows that swiw/olyew in the 'easy/difficult' reading allow the honorific si, while (19b) shows that they in the 'likely/unlikely' reading do not. Thus, the honorific test confirms our postulation of separate case frames for the two readings of swiw/olyew.

We are now ready to discuss free variation of case markers. Since a sentence which has the 'likely/unlikely' reading does not involve free variation of case markers, we confine our discussion only to a sentence which has the 'easy/difficult' reading. The underlined case markers in the following are assigned by NCM:

(20) a. John-ka [kɨ chek- {lɨl, ka} ilk]-ki-ka
Nom the book Acc Nom read Comp Nom

swiw/olyew-ta
easy/difficult Stat
'It is easy/difficult for John to read the book.'

b. Mary-ka [kɨ munce- {lɨl, ka} phul]-ki-ka
Nom the problem Acc Nom solve Comp Nom

swiw/olyew-ta
easy/difficult Stat
'It is easy/difficult for Mary to solve the problem.'

Note that the Object Case in the embedded sentences can co-occur either with the Accusative marker or with the Nominative marker. This free variation between the Accusative and Nominative markers is not purely accidental. swiw/əlyəw 'easy/difficult' are verbs of semi-self-judgment (cf. (27) in 3.3.). Earlier in this section, we observed Nominative Intrusion in certain constructions with verbs of self-judgment. The similarity between verbs of self-judgment and verbs of semi-self-judgment accounts for the free variation of the Accusative and Nominative markers. Now we can expand Nominative Intrusion (5) by including verbs of difficulty which co-occur with KI-N-Comp:

(21) Nominative Intrusion (opt)

$$\text{SD:}\quad \underset{1}{U + [W + [NP} - \underset{2}{Acc]_C} - \underset{3}{X]_S\ Comp + Y + \begin{matrix} V \\ \left\{\begin{matrix} \left[\begin{matrix}\text{+Self-}\\ \text{judge}\end{matrix}\right] \\ [\pm\text{Easy}] \end{matrix}\right\} \end{matrix} + Z}$$

$$\text{SC:}\quad 1, 2, 3 \Longrightarrow 1, \text{Nom}, 3$$

where: Comp refers to KO-V-Comp or KI-N-Comp.

We now turn to the construction with KəS-N-Comp, where the case marker for the constituent subject varies between the Nominative and Accusative markers. Observe the following:[14]

(22) a. na-ka [John-ka ka-nɨn]-kəs-lɨl po-Ass-ta
I Nom Nom go Ajct-M Comp Acc see Past Stat
'I saw John going.'

b. na-ka [John-lɨl ka-nɨn]-kəs-lɨl po-Ass-ta
Acc
'I saw John going.'

These two sentences are synonymous. Our concern here is how to account for the variation of the Nominative and Accusative markers which co-occur with the constituent subject. First, we must decide whether the variation under discussion is free variation or systematic variation. Second, if it is systematic variation, what rule(s) must be postulated? Third, are such rules justifiable? Suppose that it is systematic variation. If this hypothesis is correct, we must invoke Argument Raising, which raises the constituent subject under the proposition node of the matrix sentence. Then, NCM-b (i.e. non-subject marking) will assign the Accusative marker for the raised NP (i.e. John). At this point in our discussion, we must recall that this study (cf. 3.1.) postulates Argument Raising, but the rule is triggered only by Predicate Raising in the process of verbal compounding. In other words, if and only if Predicate Raising applies, then Argument Raising applies (i.e. they are conjunctively ordered). However, the data under discussion do not allow Predicate Raising, since the constituent verb and the matrix verb do not form a compound verb. The reason is that the complementation under discussion is not verbal complementation but nominal complementation. Consequently, Argument Raising can not apply.

Since Argument Raising which is already postulated in conjunction with Predicate Raising can not apply for the sentences under discussion, we must consider another type of Argument Raising which is not linked with Predicate Raising. If we postulate another type of Argument Raising, then we must justify the rule. One type of justification will be that John in (22b) can be regarded as the Object Case in the matrix sentence. It seems to me that even linguistically oriented native speakers of Korean can not definitely judge whether John in (22b) is the Object Case or not in the matrix sentence. I can not find any definite justification for regarding John as the Object

Case in (22b). Thus, I tentatively conclude that John in (22b) is not the Object Case of the matrix sentence, and that another type of Argument Raising has no definite justification.

Since another type of Argument Raising, which would raise John in (22a) under the preposition node, is doubtful, we need an alternative explanation for the variation between the Nominative and Accusative markers in (22). I regard the variation under consideration as free variation. If this judgment is correct, SCM must account for it. Before postulating SCM, we must capture some constraints on the variation. In what follows, we will specify the constraints.

The variation of case markers under discussion is restricted only to a certain type of constituent sentence. As we will see shortly, the constituent sentence must contain a verb which is intransitive, non-copula, and non-adjective. Put differently, if the constituent sentence contains a transitive, copular, or adjectival verb, the variation under discussion does not occur. Such facts are shown in the following examples:

(23) When the Constituent Verb is a Copula

a. na-ka [John- {ka, *lɨl} kyosa i-nɨn]-kes-lɨl
I Nom Nom Acc teacher be Ajet-M Comp Acc

al-Ass-ta
know Past Stat
'I knew that John was a teacher.'

When the Constituent Verb is an Adjective

b. na-ka [John- {ka, *lɨl} cengcik-ha-nɨn]-kes-lɨl
I Nom Nom Acc honest Ajet-M Comp Acc

al-Ass-ta
know Past Stat
'I knew that John was honest.'

When the Constituent Verb is Transitive

c. na-ka [John- {ka, *lɨl} Mary-lɨl salang-ha-nɨn]-
   I Nom Nom Acc Acc love Ajst-M

   kes-lɨl al-Ass-ta
   Comp Acc know Past Stat
   'I knew that John loved Mary.'

Now formalism is in order. We must incorporate the constraints observed above in formulating the rule:

(24) SCM for Constructions with KeS-N-Comp (opt)

$$\begin{array}{llll} \text{SD:} & W + [\ [NP - & Nom]_C - X + \underset{\begin{bmatrix}-Copula\\-Adj\end{bmatrix}}{V} & + Y\ ]_S + Comp + Z \\ & 1 & 2 & 3 \end{array}$$

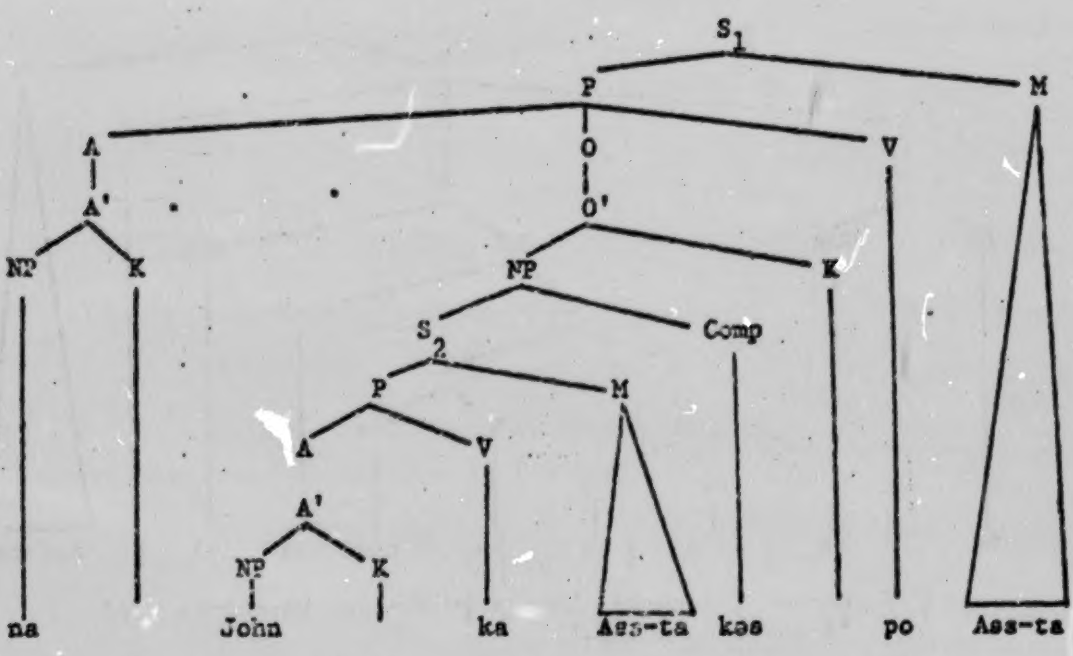
$$\text{SC:}\quad 1, 2, 3 \Longrightarrow 1, Acc, 3$$

where: X must not be null
Comp refers to KeS-N-Comp.

The SD of this rule shows that the case frame for the constituent verb has + [C, ___], and that the constituent verb is an intransitive verb which is neither a copula nor an adjective. The optionality of this rule will account for free variation of the Nominative and Accusative markers.

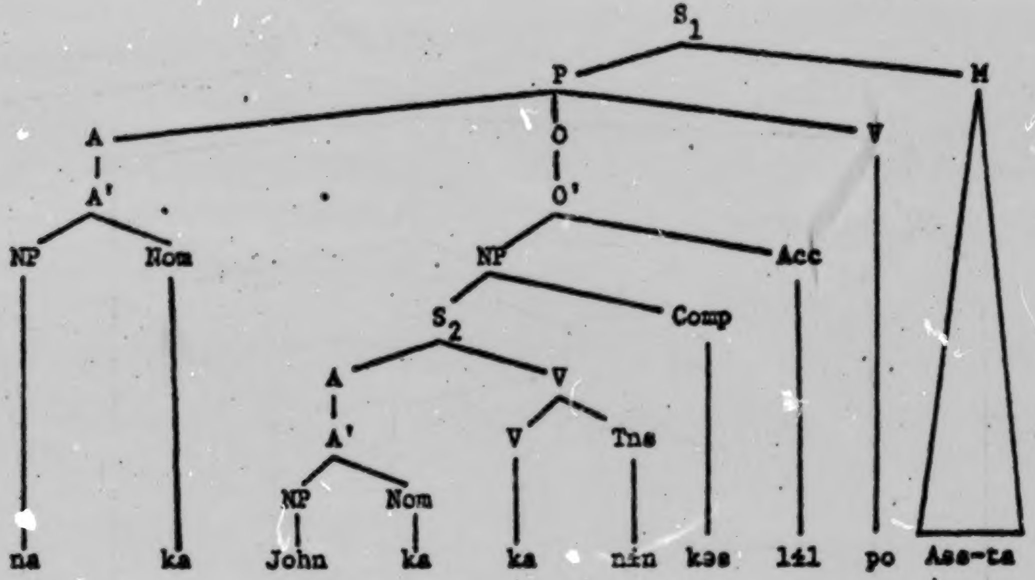
For illustration of rule (24), let us take sentence (22a).

(25) (underlying)



On the S_2-cycle, NCM-a replaces K under A(gent) by Nom. On the S1-cycle, Equi-NP Deletion can not apply since the matrix subject and the constituent subject are not coreferential. Modality Adjustment changes the tense into nín and adjoin the adjusted modality element to the constituent verb. Modality Deletion deletes the modality of the S2-cycle. Predicate Raising, Argument Raising, and Nominative Nullification can not apply since the structure does not contain verbal complementation. NCM-a replaces K under A(gent) by Nom, and NCM-b replaces K under O(bject) by Acc. Now we have the following structure.

(26)


S_1
P
M
A
O
V
A'
O'
NP
Nom
NP
Acc
S_2
Comp
A
V
A'
V
Tns
NP
Nom
na
ka
John
ka
ka
nɨn
kəs
lɨl
po
Ass-ta

/// na-ka [John-ka ka-nɨn]-kəs-lɨl po-Ass-ta ///
'I saw John going.'

SCM for the construction with KəS-N-Comp optionally replaces the Nominative marker by the Accusative marker.

(27) /// na-ka [John-lɨl ka-nɨn]-kəs-lɨl po-Ass-ta ///
'I saw John going.'

If we chose some delimiters from PS (5), we would have the following examples:

(28)
$$\text{/// na-}\left[\left\{\begin{matrix}\text{nɨn}\\ \text{to}\\ \text{ya}\\ \text{na}\\ \text{lato}\\ \text{man}\\ \text{kkaci}\\ \vdots\end{matrix}\right\}\right]\text{[John-}\left[\left\{\begin{matrix}\text{nɨn}\\ \text{to}\\ \text{ya}\\ \text{na}\\ \text{lato}\\ \text{man}\\ \text{kkaci}\\ \vdots\end{matrix}\right\}\right]\text{ka-nɨn]-kəs-}\left[\left\{\begin{matrix}\text{nɨn}\\ \text{to}\\ \text{ya}\\ \text{na}\\ \text{man}\\ \text{kkaci}\\ \vdots\end{matrix}\right\}\right]\text{po-Ass-ta ///}$$

As (28) clearly shows, the constituent subject can co-occur with any delimiter. This means that the claim that the so-called topic marker (or the thematic marker) does not co-occur in the embedded sentence (except for the contrastive use) does not hold true. In other words, the view that the topic marker nɨn (cf. wa in Japanese) is a post-cyclical phenomenon is not correct. We will return to this topic in relativization (cf. Chap. 4).

3.6. Causation

In Korean, the causative construction has two forms: one can be referred to as the 'short-form' causative and the other as the 'long-form' causative. By the long-form causative, I mean the causative construction which contains KE-V-Comp and the causative verb ha (for short, ke-ha). By the short-form causative, I mean the causative construction which contains the causative formative (e.g., i, u, ki, hi) (cf. Choi, 1965:340-341, Martin-Lee, 1969:435) in the place of ke-ha. This difference is shown in the following:

(1) Short-form Causative

a. John-ka Mary- {*ka, eke, lɨl}[15] us-ki- nɨn-ta
Nom Nom Agt Acc smile Cause Indi Stat
'John causes Mary to smile.' (Causative)

Long-form Causative

b. John-ka Mary- {ka, eke, lɨl} us-ke-lɨl ha-nɨn-ta
Nom Nom Agt Acc smile Comp Acc Cause Indi
(1) 'John causes Mary to smile.' (Causative) Stat
(2) 'John permits Mary to smile.' (Permissive)

From these data, we must note two types of characteristics. First, the short-form causative has only one reading (i.e. causative), whereas the long-form causative has (at least) two readings (i.e. causative and permissive). Second, in the long-form causative, the constituent subject allows the Nominative marker *ka*, the Agent marker *eke*, or the Accusative marker *lɨl*. However, in the short-form causative, the constituent subject does not allow the Nominative marker *ka*. Let us show the differences of the two causatives in the following:

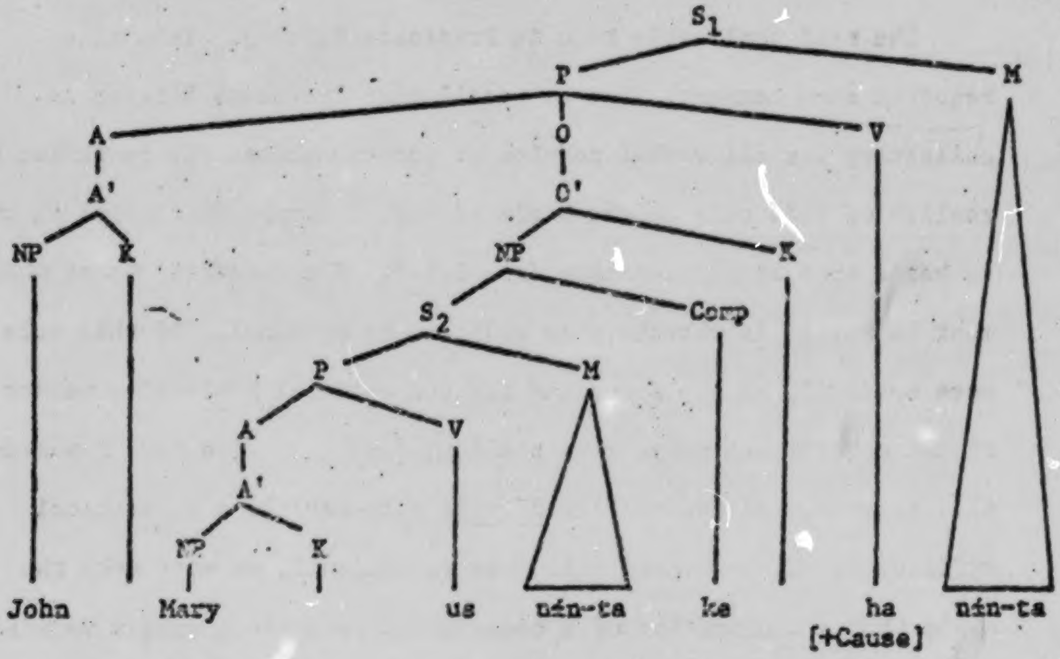
(2)

Causative	Form	Case Marker for Constituent Subject	Function
short-form	V+{i, u, ki, hi}	eke, lɨl	Causative
long-form	V+ *ke* + *ha*	ka, eke, lɨl	(1) Causative (2) Permissive

Since the long-form causative (in the causative reading, excluding the permissive reading) and the short-form causative are synonymous, we can assume that they have the same deep structure.[16] Our next decision must be made as to which of the two causatives is the underlying structure. If we choose the short-form causative for the underlying structure, we must insert the verbal complementizer *ke*, the causative verb *ha*, and suffix the Accusative marker *lɨl* to the complementizer *ke*, in order to derive the long-form causative. However, if we choose the long-form causative, we must replace *ke-ha* by the causative formative (i.e. *i*, *u*, *ki*, or *hi*). A quick comparison of the two options shows that the second option seems simpler. More important, it allows us to account for the structural similarity between *ke-ha* constructions and other *KE*-verbal complement constructions, which could only be handled in a very *ad hoc* way if the derivation were in the other direction. In order to replace *ke-ha* by one of the causative formatives, we need Predicate Raising, if we choose the long-form causative. However, this rule does not complicate our grammar, since this rule is necessary for other types of verbal complement constructions. Thus, we choose the long-form causative as the underlying structure.

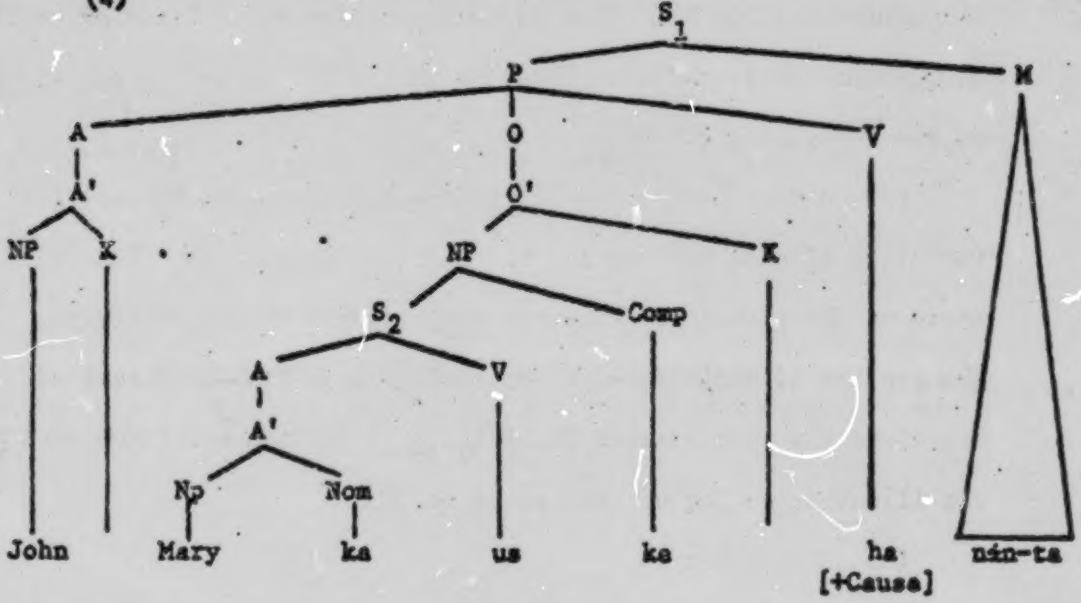
Now we must derive the short-form causative and account for variation of case markers for the constituent subject. Let us approach the problem by directly deriving the target sentences. In the process of derivation, theoretical points will be discussed. I postulate the case frame + [A, $[S]_O$, ___] for the causative verb ha. For illustration let us take sentence (1b).

(3) (underlying)



On the S2-cycle, NOM-a replaces K under A(gent) by Nom. On the S1-cycle, Equi-NP Deletion and Modality Adjustment do not apply. Modality Deletion deletes the modality of the S2. Now we have the following structure.

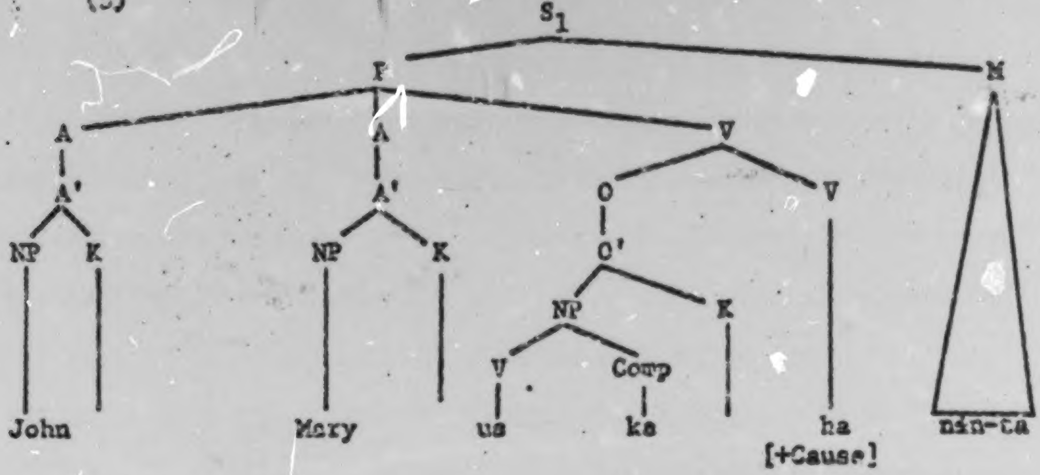
(4)



The next applicable rule is Predicate Raising. This rule requires some comment. Let us recall that Predicate Raising is obligatory for all verbal complement constructions. We justified the reality of this rule on the basis of verbal compounding which in turn is based upon complementation (cf. 3.1.). A theoretical point which must be raised is whether this rule can be optional. If this rule were optional, we could account for the optional Nominative marker ka of the constituent subject in the long-form causative (cf. P-marker 4). However, the optionality of this rule entails a theoretical difficulty. If we regard this rule as optional, we must make the claim that a combination of a constituent verb and a matrix verb in verbal complement constructions sometimes constitutes a compound verb and sometimes does not. The evidence cited in 3.1. indicates that such combinations always constitute compound verbs. Thus, we regard Predicate Raising as always obligatory.

Now returning to the derivation, Predicate Raising raises the constituent verb with Comp and K to the matrix verb, forming a causal compound verb us-ke-ha. Argument Raising, which is conjunctively ordered with Predicate Raising, raises the A(gent) of the S2 under the Proposition node. Nominative Nullification, which is also conjunctively ordered with Predicate Raising, replaces Nom attached to the raised A(gent) by K. Now we have the following structure:

(5)



Notice that this P-marker contains two Agents on the S1. But this tree structure does not violate principle of one-instance-per-clause (cf. Fillmore, 1971:248), since this tree is a derived one, whereas the principle applies only to deep structure.

NCM-a (i.e. subject marking) replaces K under the original A(gent) by Nom (i.e. ka), and NCM-b (i.e. non-subject marking) replaces K under the raised A(gent) by Agt (i.e. eke), and K under O(bject) by Acc (i.e. lil). At this point in our discussion, we must note that the constituent subject which is the second Agent in P-marker (5) may also have the Accusative marker lil. We must decide whether or not the long-form causative with the Agent marker eke and the long-form causative with the Accusative marker lɨl are synonymous. Let us call them eke-causative (cf. Japanese ni-causative) and lɨl-causative (cf. Japanese o-causative) respectively. For Japanese, Kuroda (1965b:36) states that in the case of the ni-causative, the action by the constituent subject is done willingly or with his consent; however, the o-causative is indifferent as to willingness or consent of the constituent subject. Kuroda's point is that ni-causative and o-causative are not fully synonymous in the construction where the constituent sentence contains an 'intransitive' verb. Kuroda's claim, however, can not be semantically supported. If Kuroda's observation were correct, the eke-causative (cf. Japanese ni-causative) would not be compatible with the adverb ekci-lo 'by enforcement, against one's will'. But the following data show that the adverb is compatible with both causatives, and that they are synonymous. The same thing can be said for Japanese (cf. Taylor, 1971:231-232).

(6) a. John-ka Mary-eke ekci-lo us-ke-lɨl ha-nɨn-ta
Nom Agt smile Comp Acc Cause
'John causes Mary to smile against her will.'

b. John-ka Mary-lɨl ekci-lo us-ke-lɨl ha-nɨn-ta
Acc
'John causes Mary to smile against her will.'

Since eke-causatives and lɨl-causatives are synonymous, we do not have to postulate a separate underlying representation for lɨl-causatives. Let us recall that we have postulated a well-motivated rule, namely, Accusative Intrusion (cf. 2.5), which optionally replaces some other case markers by the Accusative marker without affecting the original meaning. Accusative Intrusion can derive the Accusative marker of lɨl-causatives. NCM-a and NCM-b applied to P-marker (5) yield (7).

(7) /// John-ka Mary-eke us-ke-lɨl ha-nɨn-ta ///
'John causes Mary to smile.'

Accusative Intrusion optionally replaces eke by lɨl.

(8) /// John-ka Mary-lɨl us-ke-lɨl ha-nɨn-ta ///

As we see in sentence (1b), the constituent subject (i.e. Mary) also allows the Nominative marker ka. In order to account for this variation of case markers, we postulate the following rule:

(9) SCM for Long-form Causative (opt)

SD: $[NP + K]_A + [NP - Agt]_A - X + \underset{[+Cause]}{\underline{ha}} + Y$

1 2 3

SC: $1, 2, 3 \Longrightarrow 1, Nom, 3$

This rule may optionally produce the following, which is one of the correct outputs.

(10) /// John-ka Mary-ka us-ke-lɨl ha-nɨn-ta ///
'John causes Mary to smile.'

Thus far we have derived three outputs from the underlying long-form causative. Let us now think of the permissive reading of (1b). I ascribe the two readings to underlying differences of verb ha: one is the causative ha and the other is the permissive ha. Such a difference is represented in the lexicon as follows:

(11) Lexicon	ha(1)	ha(2)
	+V	+V
	+Cause	+Permit
	+ [KE-V-Comp] ___	+ [KE-V-Comp] ___

We now turn to the derivation of the short-form causative from P-marker (5). We must replace ke-ha by one of the causative formatives e.g. i, u, ki, hi), which are specific to the verb. I will not elaborate the verb specificity of the causative formatives here. Before formulating Lexical Causative Formation, we need to capture constraints on this rule in order to give optimal power to the transformation. First, the long-form causative in the permissive reading must not be subject to this rule, since the short-form causative does not include the permissive reading. Second, if we choose delimiter(s) from PS (5) for KE-V-Comp NP, we can not apply this rule, since the deletion of delimiters affects the original meaning. Consider the following:

(12) Long-form Causative

a. John-ka Mary- {ka, eke, lɨl} us-ke-kkaci
Nom Nom Agt Acc smile Comp even

ha-nɨn-ta
cause Indi Stat
'John causes Mary even to smile.'

Short -form Causative

b. * John-ka Mary- {*ka, eke, lɨl} us-ki-kkaci- nɨn-ta
Nom Ncm Agt Acc smile Cause even Indi Stat

Notice that X-delimiter kkaci 'even' is attached to KE-V-Comp NP in (12a), but there is no way to incorporate any delimiter into the short-form causative (12b). In other words, if we choose delimiter(s) from PS (5) for KE-V-Comp NP, Lexical Causative Formation must be blocked. This is one of the ways delimiters can block transformations (cf. 4.1.). Third, the long-form causative allows the honorific si, while the short-form causative does not allow it.[17] This difference is shown in the following examples:

(13) Long-form Causative

a. John-ka Mary- {ka, eke, lɨl} us-si-ke-lɨl
Nom Nom Agt Acc smile Hon Comp Acc

ha-nɨn-ta
cause Indi Stat
'John causes Mary (=Honor) to smile.'

Short-form Causative

b. * John-ka Mary- {*ka, eke, lɨl} us-si-ki- nɨn-ta
Nom Nom Agt Acc smile Hon Cause Indi
Stat

The above constraints must be considered in formulating Lexical Causative Formation:

(14) Lexical Causative Formation (opt)

$$\text{SD:}\quad X - [\;[\;[\underset{[-\text{Pro}]}{V} - \underline{ke}\;]_{NP} + k\;]_{O} - \underset{[+\text{Cause}]}{ha}\;]_{V} - W$$

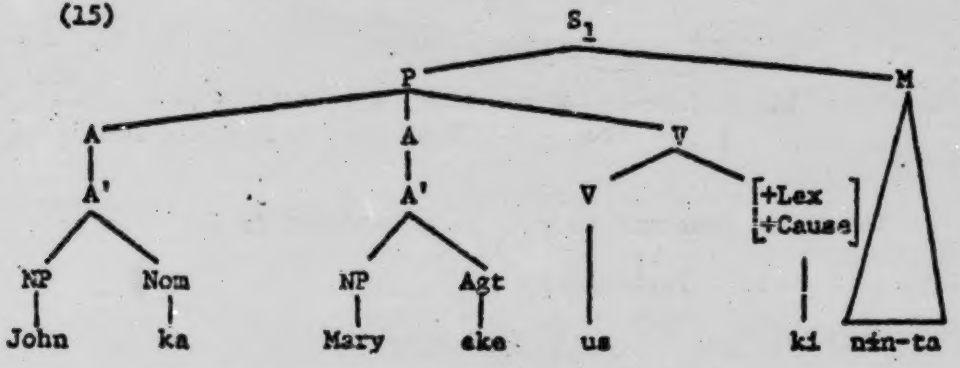
$$\qquad 1 \qquad\qquad 2 \qquad\qquad 3 \qquad\qquad 4 \qquad\qquad 5$$

$$\text{SC:}\quad 1, 2, 3, 4, 5 \Longrightarrow 1, 2 \;\#\; \begin{bmatrix} +\text{Lex} \\ +\text{Cause} \end{bmatrix}, \emptyset, \emptyset, 5$$

By excluding the possible positions of occurrence for the honorific and delimiters in the SD, we incorporated the constraints observed above. [-Pro] is postulated in order to distinguish normal verbs from the pro-verb ha which will be specified as [+Pro] in SIKHI Lexical Causative Formation (which will be formulated later in this section). [+Lex] is posited to refer to the causative formatives (e.g. i, u, hi, ki). This rule can not precede Predicate Raising, Argument Raising, and Nominative Nullification, since its SD needs a compound verb in the matrix sentence. This rule is a minor rule in the sense that not all long-form causatives have corresponding short-form causatives on the surface. The lexicon can specify this fact in terms of rule features.

At this point in our discussion, let us consider P-marker (5). It meets the SD of Lexical Causative Formation. This rule applied to (5) yields the following structure, which is one of the correct outputs.

(15)



/// John-ka Mary-eke us-ki-nɨn-ta ///
'John causes Mary to smile.'

Accusative Intrusion may optionally yield the following, where the non-subject Agent marker eke is replaced by the Accusative marker lɨl.

(16) /// John-ka Mary-lɨl us-ki-nɨn-ta ///
'John causes Mary to smile.'

SCM for Long-form Causative can not apply, since (15) is a short-form causative. Thus, sentence (1a) where the constituent subject (i.e Mary) has the Nominative marker ka is correctly blocked.

In the above we examined the causative construction where the constituent sentence has an 'intransitive' verb. Since the causative construction in which the constituent sentence has a 'transitive' verb behaves the same, I will not illustrate them here. However, it should be noted that there is another type of short-form causative which has the causative formative sikhi 'make one do something' in the place of *ke-ha* of the long-form causative. Japanese *sase*, which is similar to Korean *sikhi*, is not confined only to the noun-*si* (cf. Korean noun-*ha*) construction. In Korean, however, the *sikhi* short-form causative is confined only to the noun-*ha* construction (i.e. the construction where the constituent sentence contains a noun plus the pro-verb *ha* such as *kongpu-ha* 'study'). For ease of reference, let us show the differences between the *sikhi* short-form causative and the long-form causative in the following:

(17)

Causative	Form	Case Markers for Constituent Subject	Function
sikhi-short form	N_j + *sikhi*	eke, lɨl	Causative
long-form	N_j + *ha* *ke* *ha*	ka, eke, lɨl	(1) Causative (2) Permissive

In the *sikhi* short-form causative and its corresponding long-form causative, the same type of problem as discussed thus far exists, with the same type of variation of case markers.

Consider the following:

(18) *Sikhi Short-form Causative*

a. John-ka Mary- {*ka, eke, lɨl} kongpu-lɨl sikhi-nɨn-ta
Nom Nom Agt Acc study Acc cause Indi Stat
'John causes Mary to study.' (Causative)

Long-form Causative

b. John-ka Mary- {ka, eke, lɨl} kongpu-lɨl
Nom Nom Agt Acc study Acc

ha-ke-lɨl ha-nɨn-ta
do Comp Acc cause Indi Stat

(1) 'John causes Mary to study.' (Causative)
(2) 'John permits Mary to study.' (Permissive)

The long-form causative (18b) in the causative reading is synonymous with the sikhi short-form causative (18a). In order to derive the sikhi short-form causative, we have only to replace the compound verb ha-ke-ha by sikhi. Let us recall three types of constraints on Lexical Causative Formation: namely, (1) only the causative reading of the matrix verb of the long-form causative is synonymous with the short-form causative, (2) the honorific si cannot be incorporated into the short-form causative, and (3) delimiters cannot be incorporated into the short-form causative. These constraints also hold true with SIKHI Lexical Causative Formation.

There is another source for the causative form sikhi. The causative compound verb ha-ke-ha is used for a causative sentence where the constituent subject is animate. On the other hand, when the constituent subject is inanimate, the causative compound verb toe-ke-ha is used. In the following, the causative compound verb toe-ke-ha can be replaced by sikhi:

(19) a. John-ka [engine-lɨl palton-toe]-ke-lɨl ha-Ass-ta
Nom Acc motion became Comp Acc cause Past Stat
(Lit) 'John caused the engine to be started.'
'John started the engine.'

b. John-ka [tolo-lɨl chatan-toe]-ke-lɨl ha-Ass-ta
Nom road Acc block become Comp Acc cause Past Stat
(Lit) 'John caused the road to be blocked.'
'John blocked the road.'

Now we formulate SIKHI Lexical Causative Formation:

(20) SIKHI Lexical Causative Formation (opt)[18]

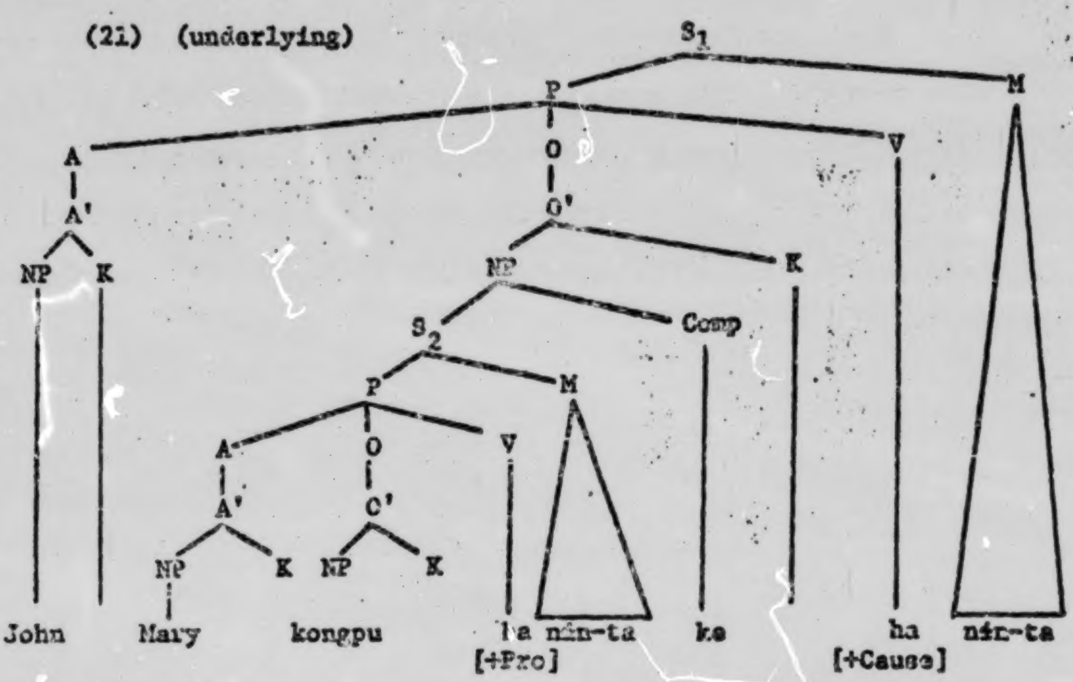
$$\text{SD: } \underset{1}{X} + [\,[\,[\underset{[+\text{Stem}]}{V} - \underset{2}{\left\{\begin{matrix}\underset{[+\text{Pro}]}{\underline{\text{ha}}} \\ \underline{\text{toe}}\end{matrix}\right\}} - \underset{3}{\underline{\text{ke}}]_{NP} + K]_O} - \underset{4}{\underset{[+\text{Cause}]}{\underline{\text{ha}}}\,]_V} - \underset{5}{W}$$

SC: 1, 2, 3, 4, 5 $\Longrightarrow$ 1, ∅, ∅, sikhi, 5

By excluding the possible positions of occurrence for the honorific and delimiters in the SD, we incorporated the above constraints. [+Stem] refers to a noun form which must necessarily be combined with ha or toe in order to become some sort of compound verb. [+Pro] is specified in order to distinguish the pro-verb ha from normal verbs. SIKHI Lexical Causative Formation and Lexical Causative Formation do not compete in the ordering of application, since their SD's are differently specified, namely, [+Pro] vs. [-Pro] for the constituent verb.

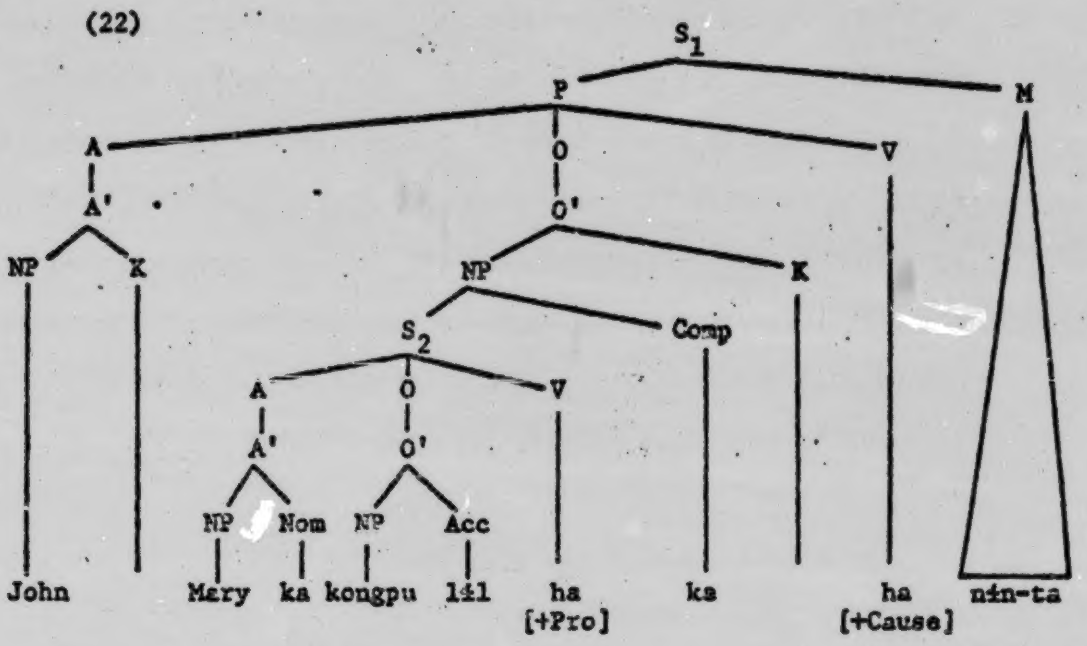
For illustration of the rule (20), let us take sentence (18b), which is a long-form causative.

(21) (underlying)



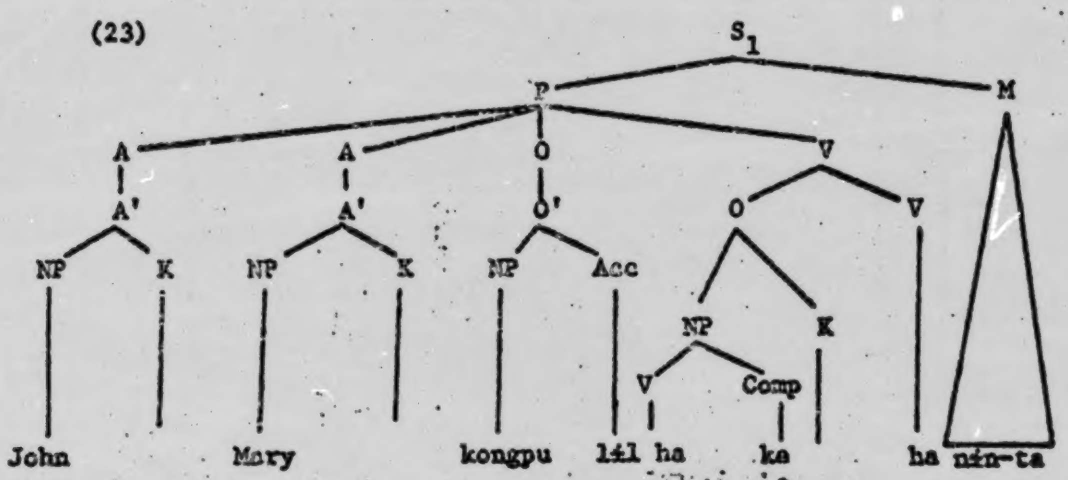
On the S2-cycle, NCM-a replaces K under A(gent) by Nom, and NCM-b replaces K under O(bject) by Acc. On the S1-cycle, Equi-NP Deletion and Modality Adjustment do not apply. Modality Deletion deletes the modality of the S2. Now we have the following structure.

(22)


S1
P
M
A
O
V
A'
O'
NP
K
NP
K
S2
Comp
A
O
V
A'
O'
NP
Nom
NP
Acc
John
Mary
ka
kongpu
lɨl
ha
[+Pro]
ke
ha
[+Cause]
nɨn-ta

Predicate Raising (obl) raises the constituent verb with Comp and K to the matrix verb, forming a causal compound verb ha-ke-ha. Argument Raising raises the Nominative-marked Agent and the Accusative-marked Object under the Proposition node. Nominative Nullification replaces Nom under the raised Agent by K. Now we have the following.

(23)


S1
P
M
A
A
O
V
A'
A'
O'
O
V
NP
K
NP
K
NP
Acc
NP
K
V
Comp
John
Mary
kongpu
lɨl
ha
ke
ha
nɨn-ta

If we do not apply SIKHI Lexical Causative Formation (opt), NCM-a replaces K under the first A(gent) by Nom, and NCM-b replaces K under the second A(gent) by Agt, and K under O(bject) by Acc, yielding the following, which is one of the correct outputs.

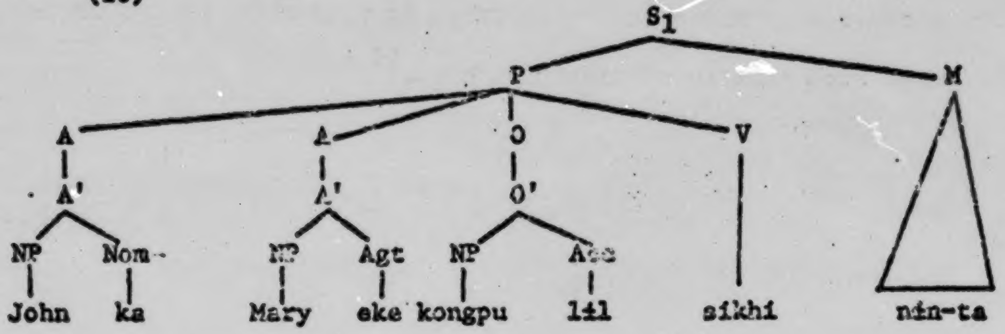
(24) /// John-ka Mary-eke kongpu-lɨl ha-ke-lɨl ha-nɨn-ta ///
'John causes Mary to study.'

Accusative Intrusion (opt) may optionally replace the Agent marker eke by the Accusative marker lɨl.

(25) /// John-ka Mary-lɨl kongpu-lɨl ha-ke-lɨl ha-nɨn-ta ///
'John causes Mary to study.'

If we apply SIKHI Lexical Causative Formation (opt), we have the following, which is one of the correct outputs.

(26)



/// John-ka Mary-eke kongpu-lɨl sikhi-nɨn-ta ///
'John causes Mary to study.'

Accusative Intrusion (opt) may optionally replace the Agent marker eke by the Accusative marker lɨl

(27) /// John-ka Mary-lɨl kongpu-lɨl sikhi-nɨn-ta ///
'John causes Mary to study.'

Since SCM for Long-form Causative applies only to the long-form causative, the sikhi short-form causative where the constituent subject has the Nominative marker ka is correctly blocked. If we chose delimiter(s) from PS (5), we would have further outputs through Affected Case Marker Deletion (cf. 2.4.).

Thus far we have derived all the possible outputs and also have accounted for the relation between the long-form causative and the short-form causative. We have assumed that the term 'causation' has unambiguous meaning. However, it should be noted that causation involves a matter of degree. Consider the following:

(28) John made Mary bathe.

In this sentence, the activity of John and that of Mary will vary. It seems that the degree of causation is not only a matter of vagueness but also a matter of ambiguity. The point is that the term 'causation' is a cover term whose referring range is very wide. But I do not discuss such aspects of causation here.[19]

Notes to Chapter 3

[1] This study does not deal with pronominalization and reflexivization. If we include these rules in a grammar, a more complex discussion of relationship of END, Pronom, and Reflex will be mandatory. For a discussion of identity (or non-distinctness) condition for deletion operations, see Chomsky (1965), Rosenbaum (1970), Karttunen (1968), Ross (1969), Postal (1970b), Koutsoudas (1970), Grinder (1970, 1971a, b), Morgan (1970), Kimball (1971) and Grosu (1971).

[2] For a different analysis for English, see Kajita (1968). If we follow his analysis, the insertion of the accusative marker is *ad hoc* at best.

[3] It is interesting to note that the adverse feature to the subject is usually expressed by the passive sentence:

(1) a. John-ka Mary-eke pal-lɨl palp-hi-Ass-ta
Nom Agt foot Acc tramp Pass Past Stat
'John got his foot tramped on by Mary.'
b. John-ka totuk-lɨl mac-Ass-ta
Nom theft Acc undergo Past Stat
'John had (something) stolen.'
c. John-ka Mary-eke hyoppak-lɨl pat-Ass-ta
Nom Agt threat Acc receive Past Stat
'John was threatened by Mary.'
d. John-ka chepho toe-Ass-ta
Nom arrest become Past Stat
'John was arrested.'
e. John-ka məli-ka kke-A ci-Ass-ta
Nom head Nom break Comp become Past Stat
'John's head was hurt (Lit. broken).'
f. Mary-ka John-eke kiss-lɨl tang-ha-Ass-ta
Nom Agt Acc adversely-receive Past Stat
'Mary got (adversely) kissed by John.'

It is universally true that the adjectival verb *good* is multiply ambiguous (cf. Vendler, 1967:172-195, Ziff, 1960:200-247). Likewise, the corresponding adverb *well* is also multiply ambiguous. One of the readings inherent to *well* (cf. Korean *cal*, Japanese *yoku*) is [-Adverse to subject]. Another reading is [-Adverse to speaker]. When the adverb *cal* is added to the above sentences which already have [+Adverse to subject], the reading of the whole sentence becomes [-Adverse to subject] or [-Adverse to speaker]:

(2) a. John-ka Mary-eke pal-lɨl *cal* palp-hi-Ass-ta
(1) 'It is good for John that he was tramped on the foot by Mary.'
(2) 'It is good (for the speaker) that ——

b. John-ka totuk-lɨl cal mac-Ass-ta
   (1) 'It is good for John that he had (something) stolen.'
   (2) 'It is good (for the speaker) that ---'
c. John-ka Mary-eke hyəppək-lɨl cal pat-Ass-ta
   (1) 'It is good for John that he was threatened by Mary.'
   (2) 'It is good (for the speaker) that ---'
d. John-ka cal chepho toe-Ass-ta
   (1) 'It is good for John that he was arrested.'
   (2) 'It is good (for the speaker) that ---'
e. John-ka məli-ka cal kke-A ci-Ass-ta
   (1) 'It is good for John that his head was hurt (broken).'
   (2) 'It is good (for the speaker) that ---'
f. Mary-ka John-eke kiss-lɨl cal tang-ha-Ass-ta
   (1) 'It is good for Mary that she was kissed by John.'
   (2) 'It is good (for the speaker) that ---'

Clark (1971) observes that adverseness is usually expressed by the passive sentence in many other languages.

[4] Verbs of 'likely/unlikely' will be discussed again in (3.5.).

[5] This rule can be written more formally if we assume the following redundancy rules:

(1) Redundancy Rules

1. Tns → [±Fut]
2. [-Fut] → [±Pres]
3. [-Pres] → [±Past]
4. [-Past] → [+Past-Past]

(2) Modality Adjustment for KoS-N-Comp

$$\text{SD:}\quad \underset{1}{R} + \underset{2}{[U - [V + W]_V} - \underset{3}{[\left[\begin{array}{l}\begin{bmatrix}\alpha\ \text{Fut}\\ <\beta\text{Pres}\\ <\gamma\text{Past}\end{bmatrix}_1\\ \begin{bmatrix}[+\text{Fut}]\\ [+\text{Pres}]\\ [+\text{Past}]\end{bmatrix}_1\\ \begin{bmatrix}[-\text{Fut}]\\ [-\text{Pres}]\\ [-\text{Past}]\end{bmatrix}_1\end{array}\right]_2}\ ]\ \text{Tns} - X]_S$$

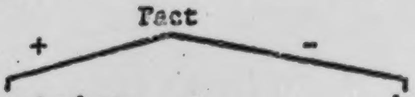
$$+ \text{Comp} + Y + \Big[\underbrace{\begin{bmatrix} \begin{bmatrix}\alpha\ \text{Fut}\\ \langle\beta\text{Pres}\rangle\\ \langle\gamma\text{Past}\rangle\end{bmatrix}_1 \\ \begin{bmatrix}[-\text{Fut}]\\ [-\text{Pres}]\\ [-\text{Past}]\end{bmatrix}_1 \\ \begin{bmatrix}[+\text{Fut}]\\ [+\text{Pres}]\\ [+\text{Past}]\end{bmatrix}_1 \end{bmatrix}_2}_{4} \Big]_{\text{Tns}} + Z$$

$$\text{SC:}\quad 1,\ 2,\ 3,\ 4 \Longrightarrow 1,\ 2\ \#\ \Big[\begin{bmatrix}\text{nɨn}\\ \text{ɨl}\\ \text{ɨn}\end{bmatrix} \Big]_{\text{Tns}},\ 3,\ 4$$

---

[6] Even though there are exceptions, some sentential complements are subject to the factivity vs. non-factivity dichotomy (cf. Kiparsky-Kiparsky, 1970, Kuno, 1970b).

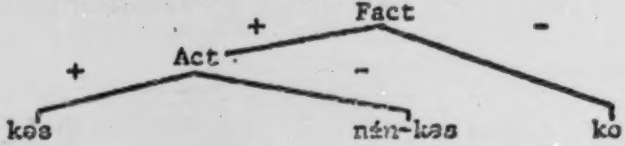
(1)



	+	-
Kor:	kəs, nɨn-kəs	ko
Jap:	no, koto	to
Eng:	fact that	that

Furthermore, they seem to be subject to an activity vs. non-activity dichotomy (cf. Kuno, 1970b) although there are sentences where kəs-N-Comp and nɨn-kəs-N-Comp are interchangeably used.

(2)



Kor:	kəs	nɨn-kəs	ko
Jap:	no	koto	to

The form nɨn-kəs has two sources. One is derived from '... ko malha-nɨn-kəs' (somebody says that ...). The other is nɨn-kəs of NɨN-KəS-N-Comp (cf. Lee M-S., 1967:16-19). It is obvious that nɨn-kəs itself constitutes a nominal complement instead of being derived from '... ko malha-nɨn-kəs'. Observe the following:

(3) a. (kɨ ai-ka kəl-nɨn-ta)-nɨn-kəs-ka kicək i-ta
the child Nom walk Comp Nom miracle be
'It is a miracle that the child walks.'

b. (somebody-ka (kɨ ai-ka kəl-nɨn-ta)-ko
Nom the child Nom walk Comp
malha-nɨn)-kəs-ka kicək i-ta
say Ajst-M Comp Nom miracle be
'It is a miracle for somebody to say that the child walks.'

If the generative source for nɨn-kəs-N-Comp is (3b), then (3a) and (3b) must be synonymous. However, they are semantically different. To establish the generative source for the form nɨn of nɨn-kəs-N-Comp, we need further study.

For some interesting observations on the relationship between matrix verbs and complement sentences in English, see Karttunen (1971c).

I do not formulate modality adjustments for suspect-Comp and appositive-Comp. Modality Adjustments formulated in this section are sufficient to show the principle of the phenomenon under discussion.

[7] Ree (1969:77-78) observed that the construction with conjunctors such as myənsə 'while, as' and nɨlako 'on account of' are subject to the equi-subject constraint.

[8] Lee H-B. (1970) observed that the construction with ma is subject to the equi-subject constraint.

[9] In (3.2.), we observed that verbs of self-judgment are subject to the equi-subject constraint if the sentential complement is KI-N-Comp. If the sentential complement is KəS-N-Comp or ƗM-N-Comp, there is no such constraint:

(1) a. na-nɨn (John-ka Fiji-lɨl ttəna)-ɨm-ka səpsəpha-ta
I Z-lim Nom Acc leave Comp Nom sorry
'I am sorry that John will leave Fiji.'
b. na-nɨn (John-ka kɨnkə-əpsi cucəngha-nɨn)-
I Z-lim Nom evidence-without assert Ajst-M
kəs-ka silh-ta
Comp Nom dislike
'I do not like John, who makes assertions without evidence.'

səpsəpha 'sorry' and silh 'not fond of' are verbs of self-judgment.

[10] For some interesting phenomena of the retrospective mood in conjunction with modality adjustment for relative clauses, see 4.1.

[11] Kuno (1971) argues that 'existential sentences in Japanese have the word order of Location and Object (i.e. Locative and Subject in Kuno's terms) rather than the other way around. But he does not claim that his proposal is the underlying order; he claims that his proposed order must be recognized somewhere in the deep structure level. Thus, the case frame for verbs of existence in this study is not affected.

[12] The same thing can be said for Japanese. For some related observations in Japanese, see Kuno (1970b:83).

[13] coh/nappɨ 'good/bad' have the same reading as swiw/elyew 'easy/difficult' in a construction with KI-N-Comp:

(1) a. John-ka (kɨ chek-lɨl ilk)-ki-ka coh-ta
Nom the book Acc read Comp Nom good Stat
'It is easy for John to read the book.'
b. John-ka (kɨ chek-lɨl ilk)-ki-ka swiw-ta
easy
'It is easy for John to read the book.'

These examples also show that good/bad are multiply ambiguous. For further details, see Ziff (1960:200-247) and Vendler (1967:172-195).

[14] The observation which will be made for the construction with KeS-N-Comp may also hold true for the construction with KI-N-Comp, if native speakers regard the following sentences as synonymous:

(1) a. na-nɨn (John-ka ka)-ki-lɨl pala-nɨn-ta
I Z-lim Nom go Comp Acc hope Indi Stat
'I hope that John will go.'
b. (?) na-nɨn (John-lɨl ka)-ki-lɨl pala-nɨn-ta
Acc
'I hope that John will go.'

To me, (1b) sounds a little bit awkward.

[15] Sentence (1a) with eke is definitely possible, but sounds a little bit less natural.

[16] Fillmore (1968b) raises an interesting question about the causative analysis of feed and sleep. In the normal case, feed can be derived from cause plus eat, and sleep from cause plus sleep. However such an analysis is not adequate in the following examples:

(1) a. This house-boat sleeps eight adults or sixteen children.
b. This recipe feeds eight adults or four children.

For these verbs in such structures, Fillmore suggests separate lexical descriptions from the causative analysis.

The same thing can be said for Korean. In the normal case, mək-i 'feed' can be derived from mək-ke ha 'cause somebody to eat', and ca-u 'sleep' from ca-ke ha 'cause somebody to sleep'. However, the causative analysis is not adequate in the following examples:

(2) a. kɨ pap-ka sip-myəng-lɨl mək-i- Ass-ta
the food Nom ten person Acc eat Cause Past Stat
'The food fed ten persons.'
b. kɨ pang-ka sip-myəng-lɨl ca-u- Ass-ta
the room Nom ten person Acc sleep Cause Past Stat
'The room slept ten persons.'

Incidentally, it is usually claimed that when a NP is preceded by a numeral or a quantifier, the NP allows only *ka* (cf. Japanese *ga*), excluding *nɨn* (cf. Japanese *wa*). However, this claim does not necessarily hold true:

(3) yel salam- {*ka, nɨn, to, na, lato, man, kkaci*}
ten person Nom Z-lim's Y-lim X-lim
i pang-ese cap-ɨl su iss-ta
this room Loc sleep way exist Stat
'Ten persons can sleep in this room.' (to be modified with the meaning of the individual delimiter)

This example clearly shows that *nɨn* (cf. Japanese *wa*) is perfectly grammatical and sounds perfectly natural. This is an genuine counter-example to the claim that indefinite NP's are not compatible with *nɨn* (the so-called topic marker). I claim that *nɨn* (cf. Japanese *wa*) is not the topic (or thematic) marker but one of delimiters. *Nɨn* has the semantic content 'only concerned'. If any NP in a sentence is not compatible with this semantic content, the NP does not allow *nɨn* just as in the case of other delimiters. For discussion with regard to embedded sentences, see 3.5. and 4.1. For details, see Yang (forthcoming a).

[17] There is at least one exception to this generalization. The short-form causative verb *pat-hi* 'offer honorably' is used only for an honorific expression:

(1) a. John-ka Mary-eke senmul-lɨl *pat-* *hi-* Ass-ta
Nom Exp gift Acc receive Cause Past Stat
'John (honorably) offered a gift to Mary.' (Short-form)
b. John-ka Mary-eke senmul-lɨl *pat-* *si-* *ke* *ha-*Ass-ta
Hon Comp Cause
'John caused Mary to (honorably) receive a gift.' (Long-form)
c. John-ka Mary-eke senmul-lɨl *pat-* *ke-* *ha-*Ass-ta
Comp Cause
'John caused Mary to receive a gift.' (Long-form)

(1a) is synonymous with (1b), but not with (1c).

[18] There are exceptions to *SIKHI* Lexical Causative Formation. For example, *mang-ha-ke ha* 'cause somebody to ruin' can not be changed into * *mang sikhi* which is ill-formed. On the other hand, *mal-ha-ke ha* 'cause somebody to say' or 'bother' can be changed into either *mal sikhi* 'cause somebody to say' or *mal-ha-i* 'bother'. Choi (1965: 407) says that the form *mal-ha-i* is used only in the Cholla-do area.

[19] For some aspects of relation between passive and causative, see Song (1967) and Kim S-D. (1970).

Separately from the causative, Korean has other expressions of the long-form vs. short-form opposition. I will note one interesting phenomenon from such expressions. Long-form expressions are constructions in which the verbal parts are repeated. In this sense, the long-form expression may be dubbed 'double verbal' expressions.

(1) a. John-ka Mary-lɨl po-ki- {nɨn, to, ya, man} ha-Ass-ta
Nom Acc see Comp Z-lim's Y-lim do Past
(Lit) 'John did seeing Mary.' (to be modified with the meaning of the individual delimiter) 'John saw Mary.'

a'. John-ka Mary-lɨl po-ki- {nɨn, to ya man} po-Ass-ta
see see
(Lit) 'John did seeing Mary.' 'John saw Mary.'

b. John-ka Mary-lɨl po-ki-lɨl ha-Ass-ta
see Comp Acc do Past
(Lit) 'John did seeing Mary.' 'John saw Mary.'

b'. * John-ka Mary-lɨl po-ki-lɨl po-Ass-ta
see see

(1b, b') show that if KI-N-Comp occurs with a case marker (i.e. the accusative marker) the double verbal expression is not allowed. On the other hand, (1a, a') show that if KI-N-Comp occurs with certain delimiters (but not all), the double verbal expression is allowed. The double verbal expression has two types: one has the same verb for both the constituent verb and the matrix verb, the other has the pro-verb ha for the matrix verb. Since (1a) and (1a') are synonymous, we must derive one from the other. If we posit (1a) as the underlying, we need 'De-pro-formation' in order to derive (1a'). On the other hand, if we posit (1a') as the underlying, we need 'Pro-formation' in order to derive (1a).

Chapter 4

Relativization

4.1. Relative Clause Formation

In this section, we will discuss some general characteristics of Korean relativization. In English, it is known that relative clauses are subdivided into restrictive relative clauses and non-restrictive relative clauses, (cf. Chomsky, 1965, Lakoff, 1968a, Ross, 1967). This dichotomy might be applied to Korean relativization. However, this study regards the Korean counterpart of the English non-restrictive relative clause not as a type of relativization but as a type of conjunction. The following are examples of English non-restrictive relative clauses, which are translated into Korean:

(1) English

a. I bought a vacuum cleaner, and the vacuum cleaner is out of order.

(Two conjuncts)

b. I bought a vacuum cleaner, which is out of order.

(Non-restrictive relative clause)

(2) Korean

a. na-ka cinkong chongsoki-lɨl sa-Ass-ta
I Nom vacuum cleaner Acc buy Past Stat

kɨlonte kɨ cinkong chongsoki-ka kocang-na-Ass-ta
and the vacuum cleaner Nom out-of-order Past Stat

b. na-ka cinkong chəngsoki-lɨl sa-*Ass-nɨn-te*
I Nom vacuum cleaner Acc buy Ajst-M and

kɨ cinkong chəngsoki-ka kocang-na-Ass-ta
the vacuum cleaner Nom out-of-order Past Stat

In English, (1b) can be regarded as a relativization since the second part contains a relative pronoun *which*. The corresponding Korean sentence (2b), however, can not be regarded as a relativization, since there is no formal evidence such as English relative pronouns. One might say that the form *Ass-nɨn-te* is formal evidence for relativization. But such a view is not adequate, since *Ass-nɨn* is an adjusted modality element which is relevant to conjunction and complementation as well as to relativization, and *te* is the contracted form of the conjunctor *kɨlente* just as *ko* is the contracted form of the conjunctor kɨliko 'and then':

(3) a. na-ka cam-lɨl ca-Ass-ta. *kɨliko*
I Nom sleep Acc sleep Past Stat and then

(na-ka) kongpu-lɨl ha-Ass-ta
I Nom study Acc do Past Stat
'I slept, and then (I) studied.'

b. na-ka cam-lɨl ca-*ko* kongpu-lɨl ha-Ass-ta
I Nom sleep Acc sleep and then study Acc do Past Stat
'I slept and then studied.'

Hereafter, relativization in Korean (and Japanese) refers only to restrictive relative clause formation. This study does not deal with conjunction in general. The point is that both English and Korean can represent the semantic distinction of restrictive and non-restrictive relative clauses, but on the surface the English non-restrictive relative clause corresponds to a type of conjunction in Korean (and Japanese).

To account for restrictive relative clauses, this study postulates the first expansion of PS (6). Note that the relative clause precedes the specifier, which is roughly similar to the position of the English demonstratives. This ordering implies that the *Art-S* analysis (cf. Chomsky, 1965:129) is not adopted in this study. In Korean, the specifier may precede the relative clause on the surface. Such a structure can be derived by moving the specifier in front of the relative clause. The reason why this study adopts the *NP-S* analysis (*S-NP* is reversed to accommodate the Korean order) for relativization is that this order is more natural in Korean than the order of the specifier plus the relative clause plus the rest of an NP as in the *Art-S* analysis.[1]

The term 'restrictive' in this study refers to 'specification' of a head noun by a relative clause in terms of reference (which includes type reference and token reference).[2] A head noun which is already specific can be further specified by a restrictive relative clause. Observe the following:

(4) a. *Rich men* are usually stingy.
(specified)

b. Men *who are rich* are usually stingy.
(specifying)

c. *Generous rich men* are rare.
(further specified)

d. Rich men *who are generous* are rare.
(specifying)

In (4a), *rich men*, which is derived from the first part of (4b) is specific. *Rich man* which is already specific is further specified in *generous rich men*, which is derived from the first part of (4d).[3]

There are some further formal differences between Korean relativization and English relativization. In English relativization, the following processes are involved: the movement of the NP which is coreferential to the head noun, the pronominalization of the moved NP, and the optional deletion of the relative pronoun in certain constructions. On the other hand, Korean relativization involves Equi-NP Deletion. In English relativization, the preposition (which can be likened to Korean (and Japanese) case marker) attached to the NP which is coreferential to the head noun is preserved. In Korean relativization, however, the case marker attached to the NP which is coreferential to the head noun is obligatorily deleted together with the NP. In English relativization, the modality elements are preserved as they are. In Korean relativization, however, the modality elements are necessarily adjusted. In order to account for such a phenomenon, this study postulates Modality Adjustment for the relative clause, which will be discussed at the end of this section. A sample derivation will clarify the process of Korean relativization.

Before illustrating the process of relativization, we need to postulate a rule which deletes the NP which is coreferential to the head noun. This deletion process is equivalent to the deletion process in Equi-NP Deletion. However, this study postulates relativization separately from Equi-NP Deletion, since the structural descriptions of these two rules are different. In Equi-NP Deletion, the 'controller' NP (cf. Postal, 1970b) is placed to the left side of the 'controlled' NP in the P-marker. However, in relativization, the controller NP (i.e. the head noun) is placed to the right of the controlled NP in the P-marker. In Equi-NP Deletion, the controlled NP is the left-most NP in the constituent sentence, while the controlled NP in relativization can be any NP in the constituent sentence. Now we formulate relativization:

(5) Relativization (i.e. END) (obl)

$$\text{SD:}\quad H + [\,[\,[R - [NP_j + K]_C - U]_S + W + N_j + X]_{NP} + Y]_C + Z$$

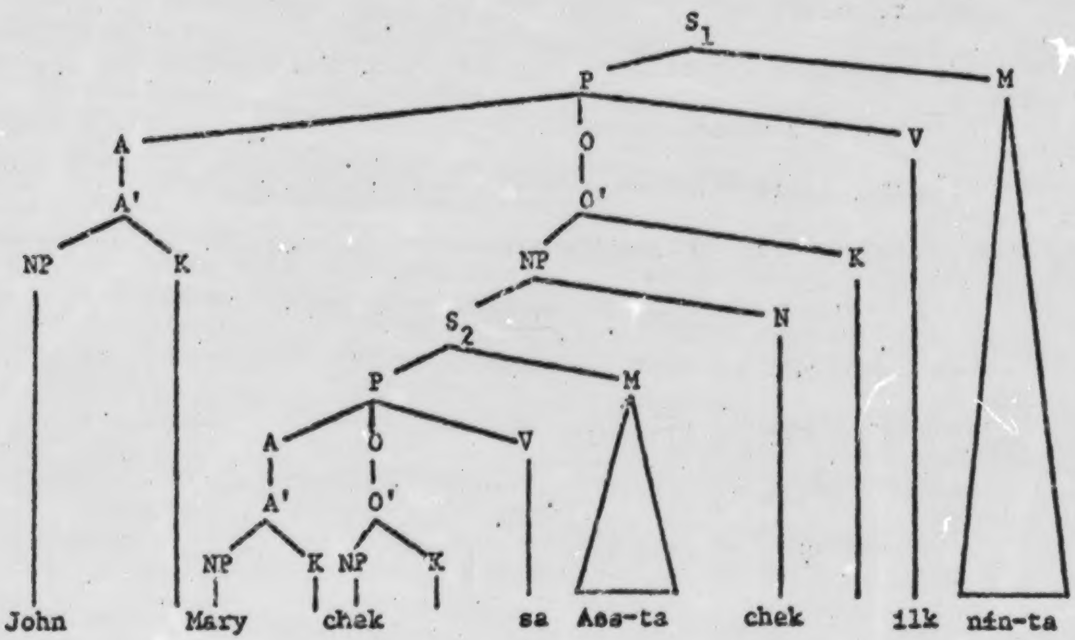
1 2 3

$$\text{SC:}\quad 1,\ 2,\ 3 \Longrightarrow 1,\ \emptyset,\ 3$$

Let us take the following sentence in order to illustrate this rule:

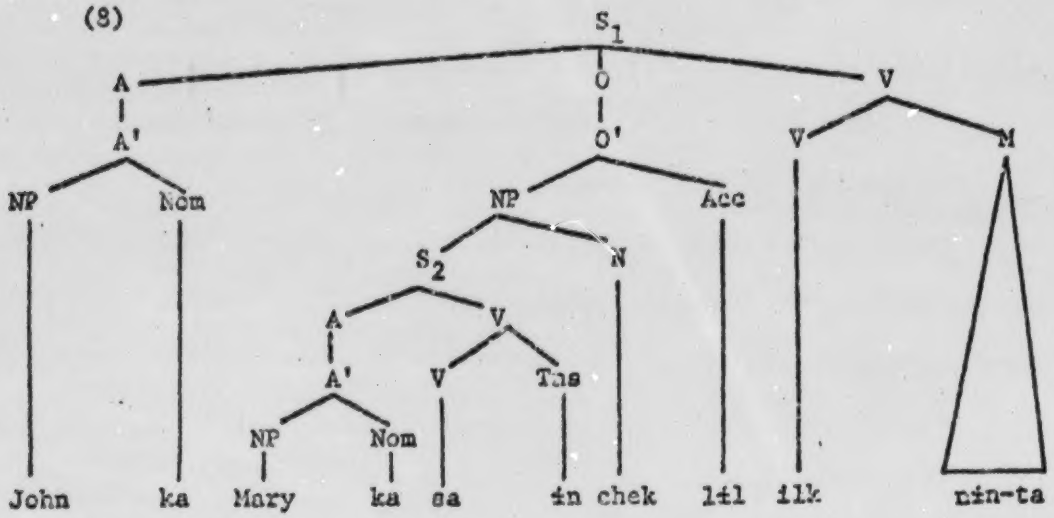
(6) John-ka [Mary-ka sa-ɨn] chek-lɨl ilk-nɨn-ta
Nom Nom buy Ajst-M book Acc read Indi Stat
'John reads the book which Mary bought.'

(7) (underlying)


S1
P
M
A
O
V
A'
O'
NP
K
NP
K
S2
N
P
M
A
O
V
A'
O'
NP
K
NP
K
John
Mary
chek
sa
Ass-ta
chek
ilk
nɨn-ta

On the S2-cycle, NCM-a (i.e. subject marking) replaces K under A(gent) by Nom, and NCM-b (i.e. non-subject marking) replaces K under O(bject) by Acc. On the S1-cycle, relativization deletes the O(bject) of the S2. Modality Adjustment for relative clauses changes the tense into ɨn and adjoins it to the verb. Modality Deletion deletes the modality of S2. NCM-a replaces K under A(gent) by Nom, and NCM-b replaces K under O(bject) by Acc. Modality Lowering (which is a post-cyclical rule) lowers the modality of the S1 to the verb. Now we have the following structure:

(8)



/// John-ka Mary-ka sa-ɨn chek-lɨl ilk-nin-ta ///

We now consider relativization. In the SD, Y which occurs with the controller N may contain a case marker and/or delimiter(s). However, the controlled NP allows only K (i.e. a case marker) excluding delimiter(s). This specification of the SD of relativization needs clarification. If one or more delimiters occur with the controlled NP, relativization must be blocked because there is no way to incorporate delimiters into the controller N. Consider the following:

(9) a. John-ka [Mary-ka sa-ɨn] chek-lɨl ilk-nɨn-ta
Nom Nom buy Ajst-M book Acc read Indi Stat
'John is reading the book which Mary bought.'

b. John-ka chek-lɨl ilk-nɨn-ta (Matrix S)
Nom book Acc read Indi Stat
'John is reading.'

c. Mary-ka chek-*man* sa-Ass-ta (Constituent S)
Nom book only buy Past Stat
(Y-lim)
'Mary bought only a book.'

If (9b) and (9c) were combined through relativization, they would become a complex sentence (9a). Notice that the controlled NP *chek* 'book' in (9c) co-occurs with the Y-delimiter *man* 'only'. The Y-delimiter would disappear together with the controlled NP in the complex sentence (9a). This deletion of the Y-delimiter would result in the loss of information. Thus, if the controlled NP co-occurs with one or more delimiters, relativization must be blocked; the controlled NP which co-occurs with delimiters can not be relativized. This is handled by excluding the possibility of a delimiter occurring after K in the structural description. This is one instance of blockage of transformation because of delimiters. We observed the same phenomenon in connection with Lexical Causative Formation and *SIKHI* Lexical Causative Formation in 3.6.

The occurrence of delimiters requires a bit more discussion. It is usually claimed that the delimiter *nɨn* (cf. Japanese *wa*), which is usually called the topic marker, does not occur with the constituent subject of embedded sentences except to mark contrast. I claim that this generalization does not necessarily hold true. Since I provided evidence that the constituent subject of complementation constructions can co-occur with the delimiter *nɨn* in 3.5., I will here show examples of nɨn with relative clauses. It is true that not all the constituent subjects of relative clauses can co-occur with the delimiter nɨn. There are selectional restrictions, just as the delimiter mata 'every' can not co-occur with pronouns, except for the generic use of ce 'one' (i.e. ce-mata 'every·one'). However, when relative clauses contain certain adverbials, the constituent subject can co-occur with the delimiter nɨn (cf. Japanese wa):

(10) Relative Clause

a. John-ka [na-nɨn musimkho ha-ɨn] mal-lɨl
Nom I with no malice say Ajst-M speech Acc

ohe-ha-Ass-ta
misunderstand Past Stat
'John misunderstood what I said with no malice whatever.'

b. koyangi-ka [apeci-nɨn elyəw-ke cap-ɨn]
cat Nom father with difficulty catch Ajst-M

koki-lɨl mək-A-peli-Ass-ta
fish Acc eat up Past Stat
'A cat ate up the fish which Father caught with difficulty.'

These sample examples clearly show that under certain conditions the constituent subject of the relative clause can co-occur with the delimiter nɨn. Thus, the view that nɨn is a post-cyclical phenomenon is not adequate.

Now we will discuss the phenomenon of modality adjustment for relative clauses. As we see in P-marker (8), the modality of a relative clause is necessarily replaced by a form such as ɨn, nɨn, ɨl, tə-ɨn, Ass-tə-ɨn, etc. One might say that these forms are 'relativizers'. Such an analysis, however, is inadequate. If these forms occurred only in relative clauses, we might regard them as relativizers, but these forms are adjusted modality elements which are operative in some nominal complementations (cf. 3.1.) and conjunction as well as in relative clauses. In other words, the phenomenon of modality adjustment is operative in all of three types of sentential recursion.

The most important factor in describing modality adjustment is tense. First of all, we consider simplest cases. If the tense of a relative clause is the past (or past-past), the adjusted modality element is *ɨn*. If the tense is the present, *nɨn* is used. If the tense is the future, *ɨl* is used:

(11) a. [ənəhak-lɨl kongpuha-*ɨn*] salam-ka i
linguistics Acc study Ajst-M man Nom this

hyənsang-lɨl molɨ-nɨn-ta
phenomenon Acc not-know Indi Stat
'The man who *studied* linguistics does not know of this phenomenon.'

b. [ənəhak-lɨl kongpuha-*nɨn*] salam-ka i
Ajst-M

hyənsang-lɨl molɨ-nɨn-ta
'The man who *studies* linguistics does not know of this phenomenon.'

c. [ənəhak-lɨl kongpuha-*ɨl*] salam-ka i
Ajst-M

hyənsang-lɨl molɨ-nɨn-ta
'The man who *will study* linguistics does not know of this phenomenon.'

Nɨn has another use; it occurs if a relative clause expresses truth, habit, or durative:

(12) *Truth*

a. [nam-ɨi nala-lɨl chimpəmha-*nɨn*] nala-nɨn
other's country Acc attack Ajst-M country Z-lim

hangsang chimpəm-lɨl tangha-Ass-ta
always attack Acc Pass Past Stat
'Those countries which attacked other countries were

always attacked.'

Habit

b. John-nɨn [kɔcimalha-*nɨn*] salam-lɨl
Z-lim tell a lie Ajst-M man Acc

silh-A-ha-Ass-ta
hate Past Stat
'John hated men who tell lies.'

Durative

c. kɨ phosu-ka [ca-nɨn] nolu-lɨl sso-Ass-ta
that hunter Nom sleep Ajst-M deer Acc shoot Past Stat
'The hunter shot a deer that was sleeping.'

More complex phenomenon will be observed in connection with the adjusted modality element *te-ɨn*. This form appears to be a combined form of a retrospective morpheme *te* and the modality element *ɨn*. However, we will show that *te* of *te-ɨn* is not straightforwardly derived from the retrospective *te*.

The retrospective mood is a difficult aspect for English speakers to grasp, since it does not directly translate anything we say; it involves a dimension of meaning which English lacks. The best translation is 'I (saw, noticed, perceived, heard, witnessed} that ...' in statement sentences and 'Did you (see, notice, perceive, hear, witness} that ...' in question sentences.

The retrospective mood is subject to the non-equi-subject constraint, but this constraint is not operative in relative clauses:

(13) *Non-Relative Clause*

a. * na-ka chek-lɨl ilk-*te*-la
I Nom book Acc read Retro Stat
* '(I witnessed that) I read a book.'

b. * ne-ka [na-ka chek-lɨl ilk-te-la]-ko
you Nom I Nom book Acc read Retro Stat Comp

malha-Ass-ta
say Past Stat
* 'You said, "(I witnessed that) I read the book."'

c. * kɨ-ka [na-ka chek-lɨl ilk-te-la]-ko
he Nom I Nom book Acc read Retro Stat Comp

malha-Ass-ta
say Past Stat
* 'He said, "(I witnessed that) I read the book."'

d. ne-ka chek-lɨl ilk-te-la
you Nom book Acc read Retro Stat
'(I witnessed that) you read a book.'

e. kɨ-ka chek-lɨl ilk-te-la
he Nom book Acc read Retro Stat
'(I witnessed that) he read a book.'

(14) Relative Clause

a. na-ka [ilk-te-ɨn] chek-lɨl tenci-Ass-ta
I Nom read Ajst-M book Acc throw Past Stat
'I threw away the book which I had been reading.'

b. ne-ka [[ilk-te-ɨn] chek-lɨl tenci-Ass-ta]-ko
you Nom read Ajst-M book Acc throw Past Stat Comp

malha-Ass-ta
say Past Stat
'You said, "I threw away the book which I had been reading."'

c. kɨ-ka [[ilk-te-ɨn] chek-lɨl tenci-Ass-ta]-ko
he Nom read Ajst-M book Acc throw Past Stat Comp

malha-Ass-ta
say Past Stat
'He said, "I threw away the book which I had been reading."'

Sentences (13a, b, c) are ungrammatical, since they violate the non-equi-subject constraint. Notice that when ungrammatical sentence (13a) is relativized, the resultant sentence (14a) is grammatical. The non-equi-subject constraint of the retrospective mood is not accidental.

It is universally true that one cannot be a one's own witness. In other words, we say, 'I witnessed that {you, John} kissed Mary', but we do not say, * 'I witnessed that I kissed Mary'. In Korean, the 'I witnessed' part is realized as the retrospective mood. If we want to keep the 'I witnessed' part as a higher sentence, then we cannot have the retrospective mood in the immediately embedded sentence. They are mutually exclusive. This fact suggests that the retrospective mood be predictable if we postulate a higher sentence such as 'I witnessed that ...' in the deep structure for a simplex retrospective sentence. But I do not elaborate such an analysis here. I do not know the fundamental reason why the non-equi-subject constraint does not hold in relative clauses which have the retrospective mood morpheme *tə*. The point at issue is that the underlying structure (15) of the relative clause of sentence (14a) is not grammatical as an independent sentence:

(15) * nə-ka chek-lɨl ilk-*tə*-la
I Nom book Acc read Retro Stat
* '(I witnessed that) I read a book.'

The current linguistic theories have not yet explored the theoretical problems involved in postulating ungrammatical sentences as generative source sentences (cf. Partee, 1971:662). Furthermore, as we shall see shortly, when the form *tə-in* is used in a relative clause, the resultant sentence has some semantic content which is not available in a corresponding non-relative retrospective clause. Since I have no solution to propose regarding how to systematically relate the retrospective morpheme *tə* to the adjusted modality element *tə-in*, I will not deal with the retrospective mood in the underlying structure of relative clauses, leaving the ultimate solution to further study.

The adjusted modality element tə-ɨn is used when the constituent modality has the following features: (1) retrospective, (2) durative, and (3) prior to the matrix tense. The feature 'retrospective' implies that the constituent tense must not be present or future. The feature 'durative' can be likened to English translations such as 'had been V-ing,' or 'used to V'. The most important characteristic of durative constructions is that the actions, states or events in the matrix sentence and the constituent sentence are sequential, but the sequence is not an immediate sequence but a 'gapped' sequence. Here are some examples which include the adjusted modality element tə-ɨn:

(16) a. Mary-ka [caknyən-e ɨp-tə-ɨn] mini-lɨl
Nom last-year Tim wear Ajst-M Acc

kɨmnyən-e-to ɨp-Ass-ta
this-year Tim too wear Past Stat
'This year too, Mary wore the miniskirt which she used to wear last year.'

b. [John-ka salangha-tə-ɨn] Mary-ka ttəna-Ass-ta
Nom love Ajst-M Nom leave Past Stat
'Mary whom John used to love left.'

c. John-ka [sal-tə-ɨn] cip-lo ɨsa-ha-Ass-ta
Nom live Ajst-M house Goal move Past Stat
'John moved to the house in which he used to live.'

d. John-ka [yənphil-lɨl kkakk-tə-ɨn] khal-lo
Nom pencil Acc sharpen Ajst-M knife Inst

kimchi-lɨl ssəl-Ass-ta
Acc cut Past Stat
'John cut kimchi with the knife with which he used to sharpen pencils.'

In order to more clearly understand the meaning of tə-ɨn, we need to clarify distinctions between tə-ɨn, ɨn and nɨn which can be used to express the past time in one way or another. Ɨn refers to a completed action or state whereas nɨn refers to a durative action or state.

When we replace *tə-ɨn* in (16a-d) by *ɨn* or *nɨn*, we can perceive the difference. If we replace *tə-ɨn* in (16a) by *ɨn*, the resultant sentence refers to 'the miniskirt which Mary wore last year.' *Nɨn* cannot be used in (16a), since *nɨn* refers to a non-gapped sequence whereas (16) contains 'last year' and 'this year'. In (16b), both *ɨn* and *nɨn* can be used. The sentence with *ɨn* refers to 'Mary whom John loved' whereas the sentence with *nɨn* refers to 'Mary with whom John was in love'. In (16c), *ɨn* can be used but *nɨn* cannot. The sentence with *ɨn* refers to 'the house in which John once lived'. When *nɨn* is used in this sentence, the resultant sentence is contradictory, since one cannot move to the house in which he is living. In (16d), both *ɨn* and *nɨn* can be used. The sentence with *ɨn* refers to 'the knife with which John once sharpened pencils' whereas the sentence with *nɨn* refers to 'the knife which is supposed to be used to sharpen pencils'.

By now, we can specify distinctions between all the adjusted modality elements under discussion in terms of features of their lexical entries. Note that *tə-ɨn* can co-occur with the past tense morpheme *Ass*, forming *Ass-tə-ɨn* which cannot have the feature durative: (The mechanisms necessary to produce the matrices shown in (17) from the lexical entries for the individual modality elements have not been formalized here.)

(17) Feature Specification of Adjusted Modality Elements in Relative Clause

a. ʌss-te-ɨn

$$\begin{bmatrix} \text{+Retro} \\ \text{-Durative} \\ \text{+Prior to} \\ \text{ Matrix Tense} \end{bmatrix}$$

b. tə-ɨn

$$\begin{bmatrix} \text{+Retro} \\ \text{+Durative} \\ \text{+Prior to} \\ \text{ Matrix Tense} \end{bmatrix}$$

c. ɨn

$$\begin{bmatrix} \text{-Retro} \\ \text{-Durative} \\ \text{+Past} \end{bmatrix}$$

d. ɨl

$$\begin{bmatrix} \text{-Retro} \\ \text{-Durative} \\ \text{+Future} \end{bmatrix}$$

e. nɨn

$$\begin{bmatrix} \text{-Retro} \\ \left\{ \begin{bmatrix} \text{+Present} \\ + \left\{ \begin{bmatrix} \text{Truth} \\ \text{Habit} \\ \begin{bmatrix} \text{Durative} \\ \text{Equal to} \\ \text{Matrix Tense} \end{bmatrix} \end{bmatrix} \right. \end{bmatrix} \right\} \end{bmatrix}$$

On the basis of the above feature specification, we now formulate modality Adjustment for Relative Clause. For convenience, I substitute numbers for feature complexes in the following rule:

(18) Modality Adjustment for Relative Clause (obl)

$$\text{SD:} \quad R + [\ [\ [U + NP_j + W - V - \underset{\begin{bmatrix} \text{17-a} \\ \text{17-b} \\ \text{17-c} \\ \text{17-d} \\ \text{17-e} \end{bmatrix}}{\text{Tns}} - X]_S + NP_j]_{NP} + Y]_C + Z$$

$$\qquad\qquad 1 \qquad\qquad\qquad 2 \quad\ 3 \qquad\qquad\qquad 4$$

$$\text{SC: } 1, 2, 3, 4 \Longrightarrow 1, 2 \# \left[\begin{bmatrix} \text{Ass-te-ɨn} \\ \text{te-ɨn} \\ \text{ɨn} \\ \text{ɨl} \\ \text{nɨn} \end{bmatrix} \right]_{\text{Tns}}, 3, 4$$

It should be noted that this rule is a simplified one. Not all the features specified under the third term of the SD are specific to the tense. I put all the features under the tense node just for convenience. Furthermore, this rule has not captured all the possible cases; it must be further elaborated to capture the total picture of modality adjustment for relative clauses. As we did in modality adjustment for KeS-N-Comp (cf. 3.1.), nɨn must be transformed into ɨn if the constituent verb is copula or adjective (I do not formulate this rule here).

Before leaving this section, I will slightly refine the statement that the adjusted modality element te-ɨn refers to a gapped sequence between the matrix predication and the constituent predication. In some specific cases, te-ɨn may refer to an immediate sequence in addition to a gapped sequence. Here are some sample examples:

(19) Equi-Subject and Equi-Functional Predication

a. John-ka [ilk-te-ɨn] chek-ɨlɨl ilk-Ass-ta
Nom read Ajst-M book Acc read Past Stat
'John read the book which he had been reading.'
(Gapped Sequence)

Equi-Subject and Non-Equi-Functional Predication

b. John-ka [ilk-te-ɨn] chek-ɨlɨl tenci-Ass-ta
threw
(1) 'John threw away the book which he was reading.'
(Immediate Sequence)
(2) 'John threw away the book which he had been reading.'
(Gapped Sequence)

c. [ul-tə-ɨn] ai-ka kkɨchi-Ass-ta
cry child stop
'A baby who was crying stopped crying.'
(Immediate Sequence)

Non-Equi-Subject and Equi-Functional Predication

d. John-ka [Mary-ka sal-tə-ɨn] cip-esə sal-Ass-ta
live house Loc live
'John lived in the house in which Mary used to live.'
(Gapped Sequence)

Non-Equi-Subject and Non-Equi-Functional Predication

e. John-ka [Mary-ka ilk-tə-ɨn] chek-lɨl ccic-Ass-ta
read book tear
'John tore the book which Mary had been reading.'
(Gapped Sequence)

In the above examples, (19b, c) behave differently from the rest. (19b) is a two ways ambiguous. (19c) refers only to an immediate sequence, but not a gapped sequence. In other words, a relative clause which has equi-subjects and non-equi-functional predications is ambiguous as between a gapped sequence and an immediate sequence, depending upon the matrix verb.[4]

4.2. Relative Clause vs. Appositive Complementation

In this section, we discuss the generative source for certain superficially similar constructions. To put the conclusion first, one type of construction to be discussed is relativization, and the other is complementation. (1a) is an example of the former, and (1b) is an example of the latter:

(1) a. (John-ka kyəlsek-ha-ɨn) iyu
Nom absent Ajst-M reason
'the reason why John was absent'

b. (John-ka kyəlsək-ha-ɨn) sasil
Nom absent Ajst-M fact
'the fact that John was absent'

A formal test can confirm such a distinction. If a construction is a relativized structure, the head noun must have the deleted coreferential NP in the constituent sentence. Since relativization involves constituent coreferentiality between an NP in the constituent sentence and the head noun, the constituent sentence is fully recoverable. Appositive complementation, on the other hand, involves clausal coreferentiality between the whole constituent sentence and the appositive complementizer. Therefore, the appositive complementizer cannot be coreferential to any one of constituents of the constituent sentence. Let us apply the formal test to (1a, b) and show them in the following:

(2) a. John-ka *kɨ* *iyu-lo* kyəlsək-ha-Ass-ta
Nom the reason for absent Past Stat
'John was absent for that reason.'

b. * John-ka *kɨ* *sasil-lo* kyəlsək-ha-Ass-ta
Nom the fact for absent Past Stat
* John was absent for that fact.'

(2a) which has recovered the deleted constituent from (1a) is grammatical, while (2b) which has undergone the same test is ungrammatical. This difference clearly shows that (1a) is a relativized structure and (1b) is appositive complementation. In what follows, we will observe further characteristics inherent to each type of construction under discussion.

First, we will observe some characteristics of relativized structures. In this type of relativization, (1) the coreferential NP to be deleted occurs only with the adverbial marker *lo* of one use or another, (2) the coreferential NP (i.e. the controlled NP) must be preceded by the specifier, namely, *kɨ* 'that' (cf. Japanese *sono*) or its equivalent, and (3) the specifier which precedes the head noun is optionally deleted. In the following, the right-most NP outside the parenthesis is the head noun, and the coreferents are underlined:

(3) a. [* John-ka ɨto-lo mal-ha-Ass-ta] ɨto
Nom intention with speak Past Stat intention

b. [John-ka kɨ ɨto-lo mal-ha-Ass-ta] (kɨ) ɨto
the the
'John spoke with that intention.'

c. [John-ka mal-ha-ɨn] (kɨ) ɨto
Ajst-M
'that intention with which John spoke'

(4) a. [* Mary-ka moyang-lo kəl-nɨn-ta] moyang[5]
Nom manner in walk Indi Stat manner

b. [Mary-ka kɨ moyang-lo kəl-nɨn-ta] (kɨ) moyang
the the
'Mary walks in that manner.'

c. [Mary-ka kəl-nɨn] (kɨ) moyang
Ajst-M
'that manner in which Mary walks'

(5) a. [* John-ka neyong-lo phyənci-lɨl ssɨ-nɨn-ta]
Nom content with letter Acc write Indi Stat

neyong
content

b. [John-ka kɨ neyong-lo phyənci-lɨl ssɨ-nɨn-ta]
the

(kɨ) neyong
the
'John writes a letter with that content.' (Lit)

c. [John-ka phyənci-lɨl ssɨ-nɨn] (kɨ) neyong
Ajst-M
'that content with which John writes a letter'

(6) a. [* John-ka somssi-lo nole-ha-nɨn-ta] somssi
Nom technique with sing Indi Stat technique

b. [John-ka kɨ somssi-lo nole-ha-nɨn-ta] (kɨ) somssi
the the
'John sings with that technique.'

c. [John-ka nole-ha-nɨn] (kɨ) somssi
Ajɛt-M
'that technique with which John sings'

The ungrammaticality of the (a) constituent sentences and the grammaticality of the corresponding (b) constituent sentences clearly show that the coreferential NP (i.e. the controlled NP) must be preceded by the specifier kɨ 'that' (cf. Japanese sono) in the constructions under discussion. Put differently, the underlying representations for (c) structures are not (a) structures but (b) structures. At this point in our discussion, we must raise a question as to why the controlled NP must necessarily occur with the specifier kɨ 'that'. Before attempting to answer this significant question, we must clarify the function of specifiers like kɨ.

In order to capture expressions which are equivalent to kɨ, observe the following examples:

(7) a. [* John-ka ɨyu-lo kyəlsək-ha-Ass-ta] ɨyu
Nom reason for absent Past Stat reason

b. [John-ka kɨ ɨyu-lo kyəlsək-ha-Ass-ta] (kɨ) ɨyu
that that
'John was absent for that reason.'

c. [John-ka kyəlsək-ha-ɨn] (kɨ) ɨyu
Ajɛt-M
'that reason for which John was absent'

(8) a. [* John-ka iyu-lo kyəlsək-ha-Ass-ta] iyu

b. [John-ka i iyu-lo kyəlsək-ha-Ass-ta] (i) iyu
this
'John was absent for this reason.'

c. [John-ka kyəlsək-ha-ɨn] (i) iyu
this
'this reason for which John was absent'

(9) a. [* John-ka iyu-lo kyəlsək-ha-Ass-ta] iyu

b. [John-ka ətten iyu-lo kyəlsək-ha-Ass-ta]
certain

(ətten) iyu
certain
'John was absent for a certain reason.'

c. [John-ka kyəlsək-ha-ɨn] (ətten) iyu
Ajet-M certain
'a certain reason for which John was absent'

(10) a. [* John-ka iyu-lo kyəlsək-ha-Ass-ta] iyu

b. [John-ka cəngtangha-ɨn iyu-lo kyəlsək-ha-Ass-ta]
justifiable

(cəngtangha-ɨn) iyu
justifiabla
'John was absent for a justifiable reason.'

c. [John-ka kyəlsək-ha-ɨn] (cəngtangha-ɨn) iyu
Ajet-M justifiable
'a justifiable reason for which John was absent'

(11) a. [* John-ka iyu-lo kyəlsək-ha-Ass-ta] iyu

b. [[John-ka Mary-ka mit-ki mos ha-ɨl iyu-lo
Nom believe not do Ajet-M reason

kyəlsək-ha-Ass-ta] [Mary-ka mit-ki mos ha-ɨl]] iyu
'John was absent for the reason which Mary could not believe.'

c. [[John-ka kyəlsək-ha-ɨn] [Mary-ka mit-ki mos
Ajet-M

ha-ɨl]] iyu
'the reason which Mary could not believe for which John was absent' (Lit)

(c) structures are relativized structures. (b) structures are the underlying representations for (c) structures. (a) examples show that abstract nouns such as iyu 'reason' cannot co-occur with the adverbial marker lo as it is. (b) structures show that such abstract nouns must be preceded by kɨ 'that, the', i 'this', etten 'certain', an adjective (which is derived from a relative clause), or a relative clause. It seems that one characteristic commonality of them is [+Specific].[6] In other words, the controlled NP which co-occurs with the adverbial marker lo (cf. Japanese de) must be specified by being preceded by kɨ or one of its equivalents.

In order to understand some specifiers, the following table is informative. The forms in parentheses are Japanese:[7]

(12) Uses of Some Specifiers

	Dialogue			Monologue	
	speaker	addressee	remote	speaker	remote
Material reference	i (kono)	kɨ (sono)	ce (ano)	i (kono)	ce (ano)
Mental reference	kɨ (sono)				

I 'this' can be used for mental reference in monologue if the speaker presupposes that the mental referent is near him.

(13) i salam-ka o-ɨl-kka ?
this man Nom come Ques
'Will he come?'

Kɨ 'that' requires special comment. It has two different uses: one is for material reference (i.e. deictic), and the other is for mental reference (which includes anaphora and specification). 'Specification' here is used in the same sense as I defined in 4.1. To repeat the point, a restrictive relative clause specifies the head noun. Postal (1969) uses 'definitization' which is assigned by relativization. The present study, however, does not invoke 'definitization' because a restrictive relative clause necessarily 'specifies' the head noun, but not necessarily 'definities' the head noun. This fact is shown in the following examples:

(14) a. The professor did not like *the* student who got straight A's.

b. The professor respected *a* student who got straight C's.

Another difficulty was pointed out by Perlmutter (1970:241). According to him, proper nouns such as *Paris* cannot in general occur with articles unless they are also followed by relative clauses:

(15) a. *the* Paris that I love

b. *the* Paris of the nineteenth century

c. * the Paris

d. * Paris that I love

Perlmutter argues that proper nouns cannot be 'definitized' simply because they are already definite. Since the definite article in (15) cannot occur without a restrictive relative clause, Perlmutter concludes that the article *the* itself rather than the definiteness feature is added by relativization. In Korean too, *kɨ* (neither as deictic nor as anaphoric) can be assigned by relativization:

(16) a. [na-ka sa-ɨn] *kɨ* chek-ka əps-a-ci-Ass-ta
I Nom buy Ajst-M the book Nom be lost Past Stat
'The book which I bought is lost.'

b. [na-ka sa-ɨn] chek-ka əps-a-ci-Ass-ta
'The book which I bought is lost.'

c. kɨ chek-ka ops-a-ci-Ass-ta
the book Nom be lost Past Stat
'The book (which I bought) is lost.'

d. chek-ka ops-a-ci-Ass-ta
'The book (which I bought) is lost.'

Kɨ in (16a) can be interpreted either as a deictic or as assigned by relativization, but we are now concerned only with the latter case. Kɨ is freely deletable in a sentence like (16a), as shown in (16b). Kɨ in (16c) is anaphoric. The anaphoric kɨ is also deletable as shown in (16d). Deletability of kɨ in the above examples clearly shows that Korean (and Japanese) lacks an English-like determiner system (we will return to this topic later in this section). One might say that kɨ in (16c) is the pro-form of a restrictive relative clause of (16a). However, I do not consider this to be the case. A better motivated explanation is that kɨ has already been assigned to the head noun by relativization. Once this process is complete, the relative clause may be deletable and kɨ itself may also be deletable in appropriate contexts.

We now return to the main topic. In Korean (and Japanese), NP's which function as Cases (which are postulated in 2.1.) can occur without being 'specified' (i.e. without being preceded by kɨ or its equivalent). However, abstract nouns which function as 'manner' or 'reason' cannot occur without being specified. My speculation is that these forms never appear alone because they would not add any new information. It is redundant to say that events have a manner or reason, whereas it adds information to specify the manner or reason somewhat. From a different point of view, we can speculate that the formal difference between adverbials under consideration and Cases is related to the difference of the degree of 'coherency'. By coherency, I mean the relation in which the elements within a sentence are bound together. I assume that NP's which function as Cases are already tightly structured in a sentence while NP's which function as adverbials are less tightly structured. If this assumption is correct, we might say that NP's which function as Cases need not be 'specified' by some subsidiary device while NP's which function as adverbials need to be somehow 'specified' in the constructions under discussion.

To summarize, (1) the generative source for the construction like (1a) is relativization; (2) when nouns like (11) function as adverbials (i.e. with lo), they must necessarily be 'specified' by being preceded by kɨ or its equivalent (12):

(11) Nouns

iyu 'reason', ɨito 'intention', neyong 'content',
kusil 'excuse', moyang 'manner', mosɨp 'manner, aspect',
somssi 'skill', il (1) 'business', ...

(12) Specifying Methods

	Korean	Gloss	Japanese
a.	kɨ	that (mental reference)	sono
b.	kɨ	that (material reference)	sono
c.	i	this (material reference)	kono
d.	əttən	certain	aru
e.	Adjective (Derivable from relative clause)		Adjective

f. Relative Clause

.

.

.

At this point, it is worthwhile mentioning the corresponding phenomenon in English. There is a class of nouns which cannot occur in adverbial constituents unless accompanied by either some kind of demonstrative determiner or a relative clause. Such words include *way*, *manner*, *time*, *place*, etc. The following examples are from Stockwell, et al (1972):

(13) a. * He did it in a / the way.

b. He did it in a *certain* way.

c. He did it in *that* way.

d. He did it in a *strange* way.

e. He did it in a way *that is strange*.

f. He did it in a / the way *that I prescribed*.

As in Korean (and in Japanese), I suggest that the manner adverbials in the above cannot occur unless they are given the feature 'specific'. The unacceptability of (13a) suggests that the English articles *a* and *the* do not necessarily specify the following element. In this respect, Korean specifiers *kɨ* 'that', *i* 'this', *cə* 'that over there', *əttən* 'certain', etc. cannot be equated to the English articles.

It is interesting to note that nouns such as *ttə* (cf. Japanese *toki*) 'time' and *kos* (cf. Japanese *tokoro*) 'place' cannot occur in Korean and Japanese unless 'specified' by being preceded by *kɨ* (cf. Japanese *sono*) or its equivalent.

(14) a. * John-ka *tte*-e ka-Ass-ta
Nom time Tim go Past Stat
* John went at time.'

b. John-ka {kɨ, i, ettən, coh-ɨn, Mary-ka
Nom that this certain good Nom

silh-ɨn }-tte-e ka-Ass-ta
Mary does not like time Tim go Past Stat
'John went at {{that, this, a certain, a good } time
the time when Mary does not like }.'

(15) a. * John-ka kos-e o-Ass-ta
Nom place Loc come Past Stat
* 'John came to place.'

b. John-ka {kɨ, i, əttən, coh-ɨn, Mary-ka
Nom that this certain good Nom

silh-ɨn }-kos-e o-Ass-ta
not-like place Loc come Past Stat
'John came to {{that, this, a certain, a good }
the place which Mary does not like

place }.'

It is universally true that certain nouns (e.g. kos 'place', tte 'time', hyənsang 'phenomenon', insang 'impression', cucang 'claim', etc.) are so vague that they must be 'specified' in order to be informative.

In conjunction with the above English examples, Jackendoff's (1968:18-19) 'demonstrative' relative clause deserves some comment. He states that there are a number of NP constructions where the definite article is impossible unless accompanied by a relative clause:

(14) a. a piece of the cake

b. * the piece of the cake

c. the piece of the cake that I do not eat

(15) a. a friend of mine

b. * the friend of mine

c. the friend of mine that you met yesterday

(16) a. * the Paris

b. the Paris that I love

(17) a. He greeted me with warmth.

b. * He greeted me with the warmth.

c. He greeted me with the warmth that I expected of him.

He observes that in some of these cases the construction is also acceptable with a demonstrative or possessive in the article position (cf. 18); however, demonstratives or possessives are not compatible with a restrictive relative clause (cf. 19).

(18) a. that / my piece of the cake

b. this friend of mine

c. ? my Paris

d. He greeted me with his usual warmth.

(19) a. * this / your piece of the cake that you did not eat.

b. * these friends of yours that I met yesterday

c. * my Paris that I love

d. * He greeted me with his usual warmth that I expected of him.

On the grounds that a restrictive relative clause and a demonstrative / possessive are mutually exclusive in these NP constructions, he contends that the relative clauses used in the above examples have the characteristic of demonstratives.

It seems to me that a restrictive relative clause itself cannot be classified as 'demonstrative' or 'non-demonstrative'. The reason that a restrictive relative clause is in complementation with a demonstrative / possessive in the above examples is that certain NP's do not allow 'double specification', i.e., by a demonstrative / possessive and by a restrictive relative clause. This interpretation implies that the term 'demonstrative' relative clause is a misnomer. Put differently, the fact that a restrictive relative clause 'specifies' the head noun can explain the acceptability of (18) and the unacceptability of (19).

We now discuss the second type of constructions, namely, appositive complementation. We already indicated that the appositive complementizer is coreferential to the whole constituent sentence. The following examples look like relativized structures, but a formal 1 test will reveal that these examples are appositive complementation. If the following examples are relativized structures, the right-most noun must be the head noun and it must have a corresponding deleted coreferential NP (i.e. the controlled NP) in the constituent sentence. If this is true, the constituent sentence where the deleted controlled NP is recovered (i.e. the (b) examples) must be grammatical:

(20) a. [John-ka tal-e ka-ɨn] (kɨ) sasil
Nom moon Goal go Ajst-M that fact
'the fact that John went to the moon'

b. [* John-ka kɨ sasil-lo tal-e ka-Ass-ta]
that fact with Past Stat

(kɨ) sasil[8]
that fact
*['John went to the moon with that fact']

(21) a. [John-ka hankukmal-lɨl peu-ɨn] (kɨ) kyenghom
Nom Korean Acc learn Ajst-M that experience
'John's experience of learning Korean'

b. [* John-ka kɨ kyenghom-lo hankukmal-lɨl
that experience with

peu-Ass-ta] (kɨ) kyenghem[9]
Past Stat that experience
* ['John learned Korean with that experience']

(22) a. [John-ka Mary-lɨl cuk-i-ɨn] (kɨ) cɨngkə
Nom Acc kill Ajst-M that evidence
'the evidence that John killed Mary'

b. [* John-ka kɨ cɨngkə-lo Mary-lɨl cuk-i-Ass-ta]
that evidence with Past Stat

(kɨ) cɨngkə[10]
that·evidence
*['John killed Mary with that evidence']

(23) a. [John-ka Korea-e o-ɨl] (kɨ) kanɨngsəng
Nom Goal come Ajst-M that probability
'the probability that John will come to Korea'

b. [* John-ka kɨ kanɨngseng-lo Korea-e o-nɨn-ta
that probability with Indi Stat
* 'John will come to Korea with that probability.'

(24) a. [cə kənmul-ka nəm-A-ci-ɨl] (kɨ) ulyə
that building Nom fall Ajst-M that worry
'the worry that the building will fall down'

b. [* cə kənmul-ka kɨ ulyə-lo nəm-A-ci-nɨn-ta
that worry with Indi Stat

(kɨ) ulyə
that worry
* 'That building will fall down with that worry.'

The ungrammaticality of the constituent sentences in (20-24) where the supposedly deleted controlled NP is recovered shows that the right-most nouns outside the parenthesis in 20a-24a are not head nouns of relativized structures. They are appositive complementizers which are coreferential to the whole constituent sentence.[11]

Interestingly enough, some abstract nouns such as il 'business, experience' have two separate generative sources; one is the head noun of a relativized structure, and the other is an appositive complementizer For example, il in the 'business' reading can be used as the head noun of a relativized structure, while il in the 'experience' reading can be used as an appositive complementizer. This difference is shown in the following:

(25) a. [John-ka China-e ka-ɨn] (kɨ) il
Nom Goal go Ajst-M that business/experience

(1) 'the business for which John went to China'
(2) 'John's experience of having been to China'

b. (1) [John-ka kɨ il-lo China-e ka-Ass-ta]
that business Past Stat

(kɨ) il
that business
'John went to China for that business.'

(2) [* John-ka kɨ il-lo China-e ka-Ass-ta]
that experience Past Stat
* 'John went to China with that experience.'

To summarize the observations on the second type of constructions under discussion, abstract nouns such as in (26) cannot be used as head nouns for relativization of a constituent which co-occurs with the adverbial marker lo, but they can be used as appositive complementizers:

(26) Nouns

sasil 'fact', kyenghem 'experience', cɨngke 'evidence',
ulye 'worry', kanɨngseng 'probability', il (2) 'experience',
...

This study treats these nouns (19) as complementizers; they appear under Comp.

4.3. Ambiguity and Anomaly of Relativized Structures

In 4.1. we already indicated that case markers (and adverbial markers) which are attached to the controlled NP are necessarily deleted together with the controlled NP in the process of relativization in Korean (and Japanese). In this section, we will examine whether or not such an obligatory deletion of case markers (and adverbial markers) results in the ambiguity or anomaly of relativized structures.

As the following data show, the deletion of Nominative, Accusative, Experiencer, Instrument, Location, and Time markers does not result in the ambiguity or anomaly of relativized structures. In the following, the first examples are underlying structures and the second examples are relativized structures. Coreferents are underlined:

(1) Nominative Marker

a. [koynagi-ka cwi-lɨl cap-Ass-ta] koyangi
cat Nom rat Acc kill Past Stat cat
'A cat killed a rat.'

a'. [cwi-lɨl cap-ɨn] koyangi
Ajst-M
'the cat which killed a rat!

Accusative Marker

b. [ke-ka cuin-lɨl mul-Ass-ta] cuin
dog Nom owner Acc bite Past Stat owner
'A dog bit the owner.'

b'. [ke-ka mul-ɨn] cuin
Ajst owner
'the owner whom the dog bit'

Experiencer Marker

c. [John-ka Mary-eke hankukmal-lɨl kalɨchi-nɨn-ta] Mary
Nom Exp Korean Acc teach Indi Stat
'John teaches Mary Korean.'

c'. [John-ka hankukmal-lɨl kalɨchi-ɨn] Mary
Ajst-M
'Mary to whom John taught Korean.'

Instrument Marker

d. [John-ka thop-lo namu-lɨl pe-Ass-ta] thop
Nom saw Inst tree Acc cut Past Stat saw
'John cut a tree with the saw.'

d'. [John-ka namu-lɨl pe-ɨn] thop
Ajst-M saw
'the saw with which John cut the tree'

Location Marker

e. [John-ka Mary-lɨl hakkyo-ese manna-Ass-ta] hakkyo
Nom Acc school Loc meet Past Stat school
'John met Mary at school.'

e'. [John-ka Mary-lɨl manna-ɨn] hakkyo
Ajst-M
'the school at which John met Mary'

Time Marker

f. [John-ka Mary-lɨl pom-e manna-Ass-ta] pom
Nom Acc spring Tim meet Past Stat spring
'John met Mary in the spring.'

f'. [John-ka Mary-lɨl manna-ɨn] pom
Ajst-M
'the spring in which John met Mary'

In the above examples, no interesting phenomena are involved in the deletion of case markers in the process of relativization. However, some interesting phenomena will be observed in the deletion of Goal, Source, and Comitative markers in the process of relativization. In other words, the deletion of these case markers results in the ambiguity or anomaly of relativized structures. Let us observe the deletion of Goal and Source markers first. The deletion of the animate Goal and Source markers results in anomaly.

(2) Animate Goal Marker

a. [John-ka ɨisa-eke ka-Ass-ta] ɨisa
Nom doctor Goal go Past Stat doctor
'John went to the doctor.'

a'. * [John-ka ka-ɨn] ɨisa
Ajst-M
'the doctor to whom John want'

Animate Source Marker

b. [John-ka ɨisa-ekese o-Ass-ta] ɨisa
Nom doctor Source come Past Stat doctor
'John came from the doctor.'

b'. * [John-ka o-ɨn] ɨisa
Ajst-M
'the doctor from whom John came'

In 2.5. we observed that the animate Goal and Source markers are neither deletable (by Case Marker Deletion) nor replaceable by the Accusative marker (i.e. Accusative Intrusion). The anomaly of (2a', b') is not accidental, since relativization necessarily involves the deletion of case markers.

Now we observe the inanimate Goal and Source markers. The deletion of the inanimate Goal and Source markers results in reciprocal ambiguity between the goal reading and the source reading on the surface.

(3) Inanimate Goal Marker

a. [John-ka hakkyo-e o-Ass-ta] hakkyo
Nom school Goal come Past Stat school
'John came to school.'

a'. [John-ka o-ɨn] hakkyo
Ajst-M
(1) 'the school to which John came'
(2) 'the school from which John came'

Inanimate Source Marker

b. [John-ka sikol-ese olmki-Ass-ta] sikol
Nom country Source move Past Stat country
'John moved from the country.'

b'. [John-ka olmki-ɨn] sikol
Ajst-M
(1) 'the country from which John moved'
(2) 'the country to which John moved'

The observation in the above needs further refinement. Let us see what happens if a simplex sentence contains both the inanimate Goal and Source markers.

(4) Inanimate Goal Marker

a. [John-ka sikol-ese tosi-lo olmki-Ass-ta] tosi
Nom country Source city Goal move Past Stat city
'John moved from the country to a city.'

a'. [John-ka sikol-ese olmki-in] tosi
Ajat-M
'the city to which John moved from the country'

Inanimate Source Marker

b. [John-ka sikol-ese tosi-lo olmki-Ass-ta] sikol
Nom country Source city Goal move Past Stat country
'John moved from the country to a city.'

b'. * [John-ka tosi-lo olmki-in] sikol
Ajat-M
* 'the country from which John moved to the city'

When both Goal and Source occur in a simplex sentence, the inanimate Goal marker and the inanimate Source marker behave differently from each other with respect to relativization. When the Goal is relativized in a sentence where both Goal and Source occur, the relativized structure is grammatical and unambiguous. On the other hand, when the Source is relativized in a sentence where both Goal and Source occur, the relativized structure is anomalous. This difference seems to result from the fact that verbs of movement are more closely associated with Goal rather than with Source.

Let us now summarize the observations captured thus far. When animate Goal or animate Source is relativized, the relativized structure results in anomaly. When inanimate Goal or inanimate Source is relativized in a sentence in which Source or Goal does not occur, the relativized structure results in reciprocal ambiguity between the goal reading and the source reading. However, when inanimate Goal is relativized in a sentence in which both Goal and Source occur, the relativized structure does not result in ambiguity; it has only the goal reading. On the other hand, when Source is relativized in the sentence where both Goal and Source occur, the relativized structure results in anomaly. It should be noted that this phenomenon is related to deletability of case markers (cf. 2.5.).

Let us observe further interesting phenomena in the deletion of inanimate Goal or Source marker in the process of relativization.

(5) *Inanimate Goal Marker*

a. [John-ka *pang*-e tul-A-ka-Ass-ta] *pang*
Nom room Goal enter Past Stat room
'John entered the room.'

a'. [John-ka tul-A-ka-in] *pang*
Ajat-M
'the room which John entered'

Inanimate Source Marker

b. [kemi-ka *chenceng*-ese neli-A-o-Ass-ta] *chenceng*
spider Mom ceiling Source come-down Past Stat ceiling
'A spider came down from the ceiling.'

b'. [kemi-ka neli-A-o-in] *chenceng*
Ajat-M
'the ceiling from which a spider came down'

Note that the relativized structure where the inanimate Goal or Source marker is deleted does not result in ambiguity or anomaly in the above examples. This fact is due to the nature of the verb (e.g. *tul-A-ka* 'go into', *neli-A-o* 'come down', etc.) which implies the unidirectional movement. In 2.5. we labelled such verbs 'verbs of clear-cut unidirectional movement'. However, the unidirectionality of the verb is not a sufficient condition but a necessary condition for unambiguity or non-anomaly of the relativized structure under consideration. The unidirectionality of the verb does not necessarily guarantee unambiguity or non-anomaly. Observe the following:

(6) Inanimate Goal Marker

a. [helicopter-ka cipung-lo neli-A-o-Ass-ta] cipung
Nom roof Goal come-down Past Stat roof
'A helicopter landed on the roof of the house.'

a'. [helicopter-ka neli-A-o-in] cipung
Ajat-M
(1) 'the roof of the house on which the helicopter landed'
(2) 'the roof of the house ~~from which the helicopter~~ landed'

b. [kemi-ka namu-lo ol-A-ka-Ass-ta] namu
ant Nom tree Goal climb Past Stat tree
'An ant climbed up the tree.'

b'. [kemi-ka ol-A-ka-in] namu
Ajst-M
(1) 'the tree which the ant climbed up'
(2) 'the tree from which the ant climbed up'

Inanimate Source Marker

c. [helicopter-ka cipung-ese neli-A-o-Ass-ta] cipung
Nom roof Source come-down Past Stat roof
'A helicopter landed from the roof of the house.'

c'. [helicopter-ka neli-A-o-in] cipung
Ajst-M
(1) 'the roof of the house from which the helicopter landed'
(2) 'the roof of the house on which the helicopter landed'

d. [kemi-ka namu-ese ol-A-ka-Ass-ta] namu
ant Nom tree Source climb Past Stat tree
'An ant climbed up the tree.'

d'. [kemi-ka ol-A-ka-in] namu
Ajst-M
(1) 'the tree from which the ant climbed up'
(2) 'the tree which the ant climbed up'

In the above examples, only verbs of unidirectional movement are chosen, but still reciprocal ambiguity appears. This fact is due to the boundlessness of unidirectional movement. For example, the helicopter can land on the roof of the house from the sky, and it also can land on the earth from the roof of the house. The earth is the ultimate (i.e. final) landing place for the helicopter. The following sentence is unambiguous; it has only the goal reading, excluding the source reading:

(7) Inanimate Goal Marker

a. [helicopter-ka ttang-e neli-A-o-Ass-ta] ttang
Nom earth Goal come-down Past Stat earth
'A helicopter landed on the earth.'

a'. [helicopter-ka neli-A-o-in] ttang
Ajst-M
'the earth on which the helicopter landed'

The reason why (7a') is unambiguous is due to the fact that the head noun ttang 'earth' is the ultimate end point of the unidirectional movement. Thus, in order to guarantee the unambiguity of the relativized structure, we must consider not only the unidirectionality of movement but also the ultimateness of the head noun. When these two conditions are satisfied, the deletion of the inanimate Goal or Source marker in the process of relativization does not result in ambiguity. It should be noted that unidirectionality is always associated with vertical movement as opposed to horizontal movement.

Among the various phenomena observed in the above, we must formalize the impossibility of relativization of Source in the sentence where both Goal and Source occur, and the animate Goal and Source. Other phenomena are already accounted for by postulating different underlying representations.

(8) a. Blockage of Relativization of Animate Goal and Source

$$\text{SD:}\quad \underset{1}{X} - [\ \underset{2}{\underset{[+\text{Anim}]}{\text{NP}}} - \begin{Bmatrix}\text{SO}\\ \text{G}\end{Bmatrix}]_C \underset{3}{+\ Y}$$

$$\text{SC:}\quad 1,\ 2,\ 3 \Longrightarrow 1,\ \underset{[-\text{Relativization}]}{2},\ 3$$

b. Blockage of Relativization of Inanimate Source

SD: X - SO - G + Y
1 2 3

SC: 1, 2, 3 $\Longrightarrow$ 1, $\underset{[-\text{Relativization}]}{2}$, 3

We now turn to the Comitative marker. Comitative is relativizable in some constructions, but not in others. Observe the following:

(9) Comitative Marker

a. [John-ka Mary-hako hakkyo-e ka-Ass-ta] Mary
Nom Com school go Past Stat
'John went to school with Mary.'

a'. *[John-ka hakkyo-e ka-ɨn] Mary
Ajst-M

b. [John-ka Mary-hako chek-lɨl ilk-Ass-ta] Mary
Nom Com book Acc read Past Stat
'John read a book with Mary.'

b'. * [John-ka chek-lɨl ilk-ɨn] Mary
Ajst-M

Comitative is not relativizable in the above examples. Let us now introduce constructions where a different type of verb is chosen:

(10) Comitative Marker

a. [John-ka Mary-hako kyəlhon-ha-Ass-ta] Mary
Nom Com marry Past Stat
'John married Mary.'

a'. [John-ka kyəlhon-ha-ɨn] Mary
Ajst-M
'Mary whom John married'

b. [America-ka Germany-hako ssau-Ass-ta] Germany
Nom Com fight Past Stat
'America fought against Germany.'

b'. [America-ka ssau-ɨn] Germany
Ajst-M
'Germany against which America fought'

c. [John-ka Mary-hako aksu-ha-Ass-ta] Mary
Nom Com shake-hands Past Stat
'John shook hands with Mary.'

c'. [John-ka aksu-ha-ɨn] Mary
Ajst-M
'Mary with whom John shook hands'

Interestingly enough, Comitative is relativizable in the above examples. The difference between the unrelativizability of Comitative in (9) and the relativizability of Comitative in (10) resides only in the difference of verbs. Verbs in the examples (9) where Comitative is not relativizable do not necessarily require Comitative. Comitative is semantically optional in the case frame for verbs in (9). On the other hand, verbs in the examples (10) where Comitative is relativizable necessarily require Comitative. Comitative is semantically obligatory in the case frame for verbs such as kiss-ha 'kiss', aksu-ha 'shake hands', kyəlhon-ha 'marry', ssau 'fight', kyowhan-ha 'exchange', thongsin-ha 'communicate', etc. Let us call verbs in (9) 'non-reciprocal' verbs, and verbs in (10) 'reciprocal' verbs. We summarize the phenomena observed thus far in conjunction with Comitative. Comitative is not relativizable with most verbs; however, if the verb contains the feature [+Reciprocal], Comitative is relativizable.

The above generalization can be further expanded. The reciprocity resides not only in certain verbs but also in certain adverbs.[12] Consider the following examples, which turned out to be ungrammatical when Comitative was relativized in (9).

(11) Comitative Marker

a. [John-ka Mary-hako kachi/hamkke/nalanhi
Nom Com together side-by-side

hakkyo-e ka-Ass-ta] Mary
school Goal go Past Stat
'John went to school together/side by side with Mary.'

a'. [John-ka kachi/hamkke/nalanhi

hakkyo-e ka-ɨn] Mary
Ajst-M
'Mary with whom John went to school together/side by side'

b. [John-ka Mary-hako kachi/hamkke/nalanhi
Nom Com together side-by-side

chek-lɨl ilk-Ass-ta] Mary
book Acc read Past Stat
'John read a book together/side by side with Mary.'

b'. [John-ka kachi/hamkke/nalanhi

chek-lɨl ilk-ɨn] Mary
Ajst-M
'Mary with whom John read a book together/side by side'

The data show that when adverbs such as *kachi* 'together', *hamkke* 'together', *nalanhi* 'side by side', *puthəsə* 'hung together', etc. are inserted into the construction which lacks a reciprocal verb, Comitative is relativizable. What is interesting is the nature of the adverbs in (11). These adverbs are conceptually not different from reciprocal verbs in the sense that both verbs and adverbs contain the feature [+Reciprocal]. Let us call these adverbs 'reciprocal' adverbs. If a reciprocal verb or a reciprocal adverb occurs in a sentence, Comitative is relativizable. This phenomenon is not accidental. The feature [+Reciprocal] always implies the presence of Comitative. When Comitative is relativized, no information is lost if a reciprocal verb or a reciprocal adverb is present. From a different point of view, we can speculate that Comitative has a low degree of coherency (cf. 4.2.) within a non-reciprocal sentence; the functional load of Comitative is high. This fact is related to the non-deletability of the Comitative marker (cf. 2.5.). Furthermore, the phenomena observed in connection with Comitative are also related to the tentative status of Comitative as an independent Case (cf. 1.2.).

We now formalize the unrelativizability of Comitative in the construction where reciprocity is lacking. Comitative relativization is a minor rule since the sentence requires reciprocity.

(12) a. *Comitative Relativization as a Minor Rule*

$$\begin{array}{llll} \text{SD:} & X - & \text{CO} - Y + & \left\{\begin{matrix}\begin{bmatrix}\text{V}\\ \text{[+Reciprocal]}\end{bmatrix}\\ \\ \begin{bmatrix}\text{Adv}\\ \text{[+Reciprocal]}\end{bmatrix}\end{matrix}\right\} + Z \\ & 1 & 2 & 3 \end{array}$$

$$\text{SC:}\quad 1,\ 2,\ 3 \Longrightarrow 1,\ \underset{\text{[+Relativization]}}{2},\ 3$$

b. *Unrelativizability of Comitative*

$$\text{CO} \Longrightarrow \text{[-Relativization]}$$

We now turn to an informal discussion of the relativizability of constituents which co-occur with the adverbial marker *lo* (cf. Jap. *de*). The form *lo* functions as an adverbial marker, the Goal marker, and the instrument marker, resulting in homonymy. Adverbials may be relativized in Korean (and Japanese), but the relativized structure results in ambiguity or anomaly in many instances. This phenomenon is not accidental, since the degree of coherency (cf. 4.2.) of adverbials which co-occur with the adverbial marker *lo* is very low within a sentence.

When the adverbial marker *lo* is used as 'reason', the degree of the grammaticality of the relativized structure varies according to the whole sentential meaning.

(13) *Reason*

a. [John-ka *pyəng*-lo cuk-Ass-ta] *pyəng*
Nom disease die Past Stat disease
'John died of disease.'

a'. [John-ka cuk-ɨn] *pyəng*
Ajst-M
'the disease of which John died'

b. [John-ka *pyəng*-lo kyəlsək-ha-Ass-ta] *pyəng*
Nom disease absent Past Stat disease
'John was absent because of illness.'

b'. ?* [John-ka kyəlsək-ha-ɨn] *pyəng*
Ajst-M
'the disease because of which John was absent'

c. [John-ka *kamki*-lo kyəlsək-ha-Ass-ta] *kamki*
Nom flu absent Past Stat flu
'John was absent because of flu.'

c'. * [John-ka kyəlsək-ha-ɨn] *kamki*
Ajst-M
'the flu because of which John was absent'

In (13a, a'), *disease* and *to die* are combined, and this combination is grammatical in the relativized structure. In (13c, c'), *flu* and *to be absent* are combined, and this combination is not grammatical in the relativized structure. The combination of *disease* and *to be absent* in (13b, b') is in between. In the case where the NP with the adverbial marker *lo* (cf. Japanese *de*) as 'reason' is relativized, it seems to me that the degree of coherency of the head noun and the predication (in terms of cause and effect) corresponds to the degree of grammaticality. In 4.2. I specified the term 'coherency' as the closeness of the relation between the verb and the other elements within a sentence.

When the NP with *lo* as 'content' is relativized, the grammaticality of the relativized structure will vary according to the individual speaker.

(14) *Content*

a. [san-ka *nun*-lo təp-hi-Ass-ta] *nun*
mt Nom snow cover Pass Past Stat snow
'The mountain is covered with snow.'

a'. ? [san-ka təp-hi-ɨn] *nun*
Ajst-M
'the snow with which the mountain is covered'

b. [pang-ka *yənki*-lo katɨk cha-Ass-ta] *yənki*
room Nom smoke fully fill Past Stat smoke
'The room is full of smoke.'

b'. ? [pang-ka katɨk cha-ɨn] *yənki*
Ajst-M
'the smoke with which the room is filled up'

In my speech, the relativized structures (14a', b') are not natural. The natural expressions for the same message are (14a'', b''), respectively.

(14) a''. [san-e təp-hi-ɨn] *nun*
mt Loc cover Pass Ajst-M snow
'the snow with which the mountain is covered'

b''. [pang-e katɨk cha-ɨn] *yənki*
room Loc fully fill Ajst-M smoke
'the smoke with which the room is filled up'

However, these relativized structures have their own underlying structures. The following are the underlying structures for (14a'', b'').

(15) a. [*nun*-ka san-e təp-hi-Ass-ta] *nun*
snow Nom mt Loc cover Pass Past Stat snow
'The snow is covered on the mountain.'

b. [*yənki*-ka pang-e katɨk cha-Ass-ta] *yənki*
smoke Nom room Loc fully fill Past Stat smoke
'The smoke is full in the room.'

When the NP with *lo* as 'qualification/function' is relativized, the relativized structure is ungrammatical. In other words, the NP with *lo* as 'qualification/function' is not relativizable.

(16) *Qualification/Function*

a. [John-ka *tesa*-lo Korea-e ka-Ass-ta] *tesa*
Nom ambassador Goal go Past Stat ambassador
'John went to Korea as ambassador.'

a'. * [John-ka Korea-e ka-ɨn] *tesa*
Ajst-M

b. [John-ka *chongcang*-lo Yale-e chwiim-ha-Ass-ta]
Nom president Loc take-office Past Stat

chongcang
president
'John took the office of President at Yale.'

b'. * [John-ka Yale -e chwiim-ha-ɨn] *chongcang*
Ajst-M

c. [John-ka *tepho*-lo casal-ha-Ass-ta] *tepho*
Nom representative suicide Past Stat representative
'John committed suicide on behalf of others.'

c'. * [John-ka casal-ha-ɨn] *tepho*
Ajst-M

When the NP with *lo* as 'for the purpose of' is relativized, the relativized structure is fully grammatical and does not result in ambiguity. It is worthwhile to note that the English counterpart is not relativizable.

(17) a. [uli-ka ɨmsik-lɨl *mas*-lo mək-nɨn-ta] *mas*
we Nom food Acc taste eat Indi Stat taste
'We eat food for the taste.'

a'. [uli-ka ɨmsik-lɨl mək-nɨn] *mas*
Ajst-M
'the taste for which we eat food' (Lit)

b. [Mary-ka tampe-lɨl *məs*-lo phi-nɨn-ta] *məs*
Nom cigarette Acc show smoke Indi Stat show
'Mary smokes for show.'

b'. [Mary-ka   tampe-lɨl   phi-nɨn] *məs*
Ajst-M
'the show for which Mary smokes' (Lit)

c. [Mary-ka   se   cha-lɨl   *calang*-lo   sa-Ass-ta] *calang*
Nom new car Acc   boasting   buy Past Stat   boasting
'Mary bought a new car for boasting.'

c'. [Mary-ka   se   cha-lɨl   sa-ɨn] *calang*
Ajst-M
'the boating about the new car Mary bought'

When the NP with *lo* as 'result' is relativized, the relativized structure results in ambiguity depending upon the verb. For example, the verb *toe* 'become entails ambiguity, but the verb *pyənha* 'change' does not entail ambiguity. Incidentally, Fillmore (1968b:14) regarded 'Result' as one of the Cases, but he (1971:252) now combines his earlier Result and Factitive Cases into the Goal Case.

(18) *Goal (=Result)*

a. [mul-ka   *əlɨm*-lo   toe-Ass-ta] *əlɨm*
water Nom   ice   become Past Stat   ice
'Water turned into ice.'

a'. [mul-ka   toe-ɨn] *əlɨm*
Ajst-M
(1) 'the ice into which the water turned'
(2) 'the ice which turned into water'

b. [mul-ka   *əlɨm*-lo   pyənha-Ass-ta] *əlɨm*
change
'The water changed into ice.'

b'. [mul-ka   pyənha-ɨn] *əlɨm*
Ajst-M
'the ice into which the water changed'

The ambiguity of (18a') is not accidental. Let us explain the source of the ambiguity. The verb *toe* 'become' has the case frame + [O, G, ___]. Depending upon the relation of the two NP's (i.e. Object and Goal), the direction of change can be sub-grouped as:

unmarked direction (i.e. natural process), marked direction (i.e. unnatural process), and impossible direction. This difference is shown in the following.

(19) a. cisa-ka hwanca-lo toe-Ass-ta (unmarked)
governer Nom patient Goal become Past Stat
'A governer became a patient.'

a'. hwnaca-ka cisa-lo toe-Ass-ta (unmarked)
patient governer
'A patient became a governer.'

b. atɨl-ka apəci-lo toe-Ass-ta (unmarked)
son Nom father Goal become Past Stat
'A son became a father.'

b'. apəci-ka atɨl-lo toe-Ass-ta (marked)
father son
'A father became a son.' (in an extended sense)

c. Nixon-ka tethonglyəng-lo toe-Ass-ta (unmarked)
Nom president Goal become Past Stat
'Nixon became President.'

c'. * tethonglyəng-ka Nixon-lo toe-Ass-ta (impossible)
president
* 'A president became Nixon.'

In (19a, a') and (19b, b'), the same Np can be either Object or Goal. But that is not true in (19c, c'). It should be noted that the Goal marker lo can be replaced by the Nominative marker in the sentence which contain the verb toe 'become'. Since (19a, a') and (19b, b') allow either direction of change between Object and Goal, we cannot ideally test relativizability of the two NP's. The ideal sentence for the test is (19c) which allows unidirectional change. Let us see what happens when each NP of (19c) is relativized.

(20) When Object of (19c) is relativized

a. [tethonglyəng-lo toe-ɨn] Nixon-ka o-Ass-ta
president Goal become Ajst-M Nom come Past Stat
'Nixon who became President came here.'

When Goal of (19c) is relativized

b. * [Nixon-ka toe-ɨn] tethonglyəng-ka o-Ass-ta
Nom become Ajst-M president Nom come
* 'The president who became Nixon came here.'

These data show that Object Case can be relativized, but Goal Case can not be relativized in the sentence which contain the verb toe 'become'. Now returning to the ambiguity of (18a'), water and ice can be either Object or Goal. At any rate, both NP's have a chance to become an Object which can be relativized. This is the source for the ambiguity of (18a').

In the above, I indicated that Goal cannot be relativized in a sentence which has toe 'become.' Put differently, the second NP cannot be relativized. This phenomenon is not confined only to the verb toe. In an equational sentence, the second NP cannot be relativized either. Since I have no idea as to the case determination of the two NP's of an equational sentence, I will call them the first NP and the second NP.

(21) a. John-ka sinsa i-ta
Nom gentleman be Stat
'John is a gentleman.'

When the First NP is Relativized

b.
b. [sinsa i-ɨn] John
Ajst-M
'John who is a gentleman'

When the Second NP is Relativized

c. * [John i-ɨn] sinsa
Ajst-M
* 'a gentleman who is John'

Such a similarity between toe 'become' and i 'be' does not seem to be accidental. Semantically, the result of an event describable with a sentence which has become is a state which can be described with an equational sentence which has be. For example, the result sentence corresponding to Mary became a mother is Mary is a mother. Syntactically, the two NP's in a become sentence can have the identical case marker. In other words, in a sentence which has become, the Goal (i.e. the second NP) may have the Nominative marker. In an equational sentence, the two NP's necessarily have the Nominative marker, except when the second NP has no marker in an affirmative sentence.[13]

Notes to Chapter 4

[1] The S-NP analysis is questioned by Thompson (1970b). She contends that conjunction in terms of traditional logic is the underlying structure also for restrictive relative clauses. She cites the following example:

(1) Charley assumed that the book which was burned was not burned.

(2) Underlying form for the merely mistaken reading
a. (Charley assumed (book not burned)) (book burned)
Underlying form for the contradiction assumption reading
b. Charley assumed ((book burned) (book not burned))

From (2a) she derives (3a) by relativizing the first conjunct and (3b) by conjunction of the two conjuncts. From (2b) she derives (4a) by relativizing the second conjunct and (4b) by conjunction of the two conjuncts.

(3) a. The book which Charley assumed was not burned was burned.
b. Charley assumed that the book was not burned but it was burned.

(4) a. Charley assumed that the book which was not burned was burned.
b. Charley assumed that the book was burned and that it was not burned.

Thompson contends that the S-NP analysis cannot represent the ambiguity because only one embedding structure for (1) can be constructured.

To this proposal, linguists with different views will react differently. Generativists may accept this proposal, whereas interpretivists will treat this phenomenon by semantic interpretation. At any rate, it has recently been shown that generativists' semantic representation in terms of traditional logic is still not sufficient to account for deeper semantic phenomena (cf. Jackendoff, 1971, Montague, 1972, Partee, 1972).

[2] It should be noted that Karttunen (1968) uses the term 'specific' in a narrow sense. He associates 'specificness' with the idea of "having a particular individual in mind" by actually giving the NP a unique referent. Upon this definition, he (p. 10) states that (1a) is non-restrictive and specific, while (1b) is restrictive and unspecific:

(1) a. I want to marry a girl, who is a good house-keeper.
b. I want to marry a girl who is a good house-keeper.

In this study, I use the term 'specific' in a broader sense. 'Specificity' includes (1) "having a particular referent in mind" and (2) "narrowing down the scope of the referent". Karttunen's example (1a) cannot be translated into Korean (and Japanese) as a non-restrictive relative clause. Upon my definition of specificity, both (1a) and (1b) are 'specific' in Korean. Specificity will be discussed again in (4.2.). For the discussion of specificity and related matters, see Smith (1964), Baker (1966), Postal (1969), Langacker (1969), Ross (1967a), Jackendoff (1969b, 1971), Thompson (1970a, b), and Karttunen (1968, 1971b).

[3] This type of relative clauses is called 'stacked' relative clause (cf. Stockwell et al, 1972).

[4] In Japanese relativization, Modality Adjustment does not apply except in certain types of construction. The exceptional cases are: (1) sentences which have present tense and copula, and (2) sentences which have present tense and certain adjectival verbs (George Bedell, personal communication):

(1) Copula
a. John-ga gakusei-da
Nom student
'John is a student.'
Relativized
b. (gakusei-no) John
'John who is a student'
(2) Certain Adjectival Verbs
a. kono hon-ga rippa-da
this book Nom excellent
'This book is excellent.'
Relativized
b. (Rippa-na kono) hon
excellent this book
'this excellent book'

[5] This sentence has another reading: 'Mary walks in a strange manner'. In this sense, the constituent sentence is grammatical.

[6] For my definition of 'specificity', see footnote 2 of Chapter 4.

[7] For some discussion of Japanese deictics, see Kuno (1970b).

[8] One might cite the following sentence in order to provide the underlying source for (13a):

(1) (John-ka sasil-lo tal-e ka-Ass-ta) sasil
Nom in fact moon Goal go Past fact
'In fact, John went to the moon'

However, this sentence has a different meaning from (13a).

[9] The constituent sentence of (14b) may be grammatical in a different sense. In (14a), learning Korean becomes one piece of experience, while in (14b) John has some sort of previous experience. If *kɨ* is deleted from the constituent sentence of (14b), the meaning is 'in order to get experience'.

[10] The constituent sentence of (15b) is grammatical only in the sense 'John killed Mary on the basis of the evidence which already existed'.

[11] Head nouns such as *insang* 'impression' and *kyəlkwa* 'result', etc. seem to be derived by deletion of the second conjunct of the relative clause:

(1) Underlying

a. [John-ka Korea-lɨl po-ko kɨ insang-lɨl ət-Ass-ta]-
Nom Acc see and the impression Acc get Past
kɨ insang
the impression

b. [John-ka silhəm-ha-ko kɨ kyəlkwa-lɨl ət-Ass-ta]-
Nom test and the result Acc get Past
kɨ kyəlkw
the result

(2) Relativized Structure

a. [John-ka Korea-lɨl po-ko ət-ɨn]- (kɨ) insang
'the impression which John saw Korea and got'

b. [John-ka silhəm-ha-ko ət-ɨn]- (kɨ) kyəlkwa
'the result which John tested (something) and got'

Second Conjunct Deletion

a. [John-ka Korea-lɨl po-ɨn]- (kɨ) insang

b. [John-ka silhəm-ha-ɨn]- (kɨ) kyəlkwa

However, many problems remain in this analysis. Especially, we need a strong justification for the second conjunct deletion.

[12] The adverb *issyoni* 'together' in Japanese has the same function as the Korean adverbs *kachi/hamkke* in the sentence under discussion. This phenomenon in Japanese was observed by Lewis Josephs (cf. Kuno, 1970b:§19:3). Taylor (1971:320-321) also independantly observed the same phenomenon.

It seems to me that the generalizations observed in this section with regard to goal, source, and comitative markers in the process of relativization also hold true in Japanese.

[13] This informal discussion about the relativized structures which involve various uses of the adverbial marker *lo* (cf. Japanese *de*) is not exhaustive. But I will not go further here.

For some other aspects of relativization in Korean and/or Japanese see Ree (1969), Kuno (1970b), Josephs (1972a, b), Oh (1971).

Kuno (1970b:§19) observes that if an NP is thematizable, then the NP is also relativizable in Japanese. This thematizability/relativizability hypothesis is interesting, but many problems remain. I will not discuss the problems here.

Appendix I

List of Transformational Rules

Cyclical Rules

1. Equi-NP Deletion (3.1.-1)
2. Relativization (4.1.-5)
3. Modality Adjustment for *KƗ*/*ƗM*-N-Comp (3.1.-36)
4. Modality Adjustment for *KəS*-N-Comp (3.1.-46)
5. Modality Adjustment for Relative Clause (4.1.-22)
6. Modality Deletion (3.1.-6)
7. Predicate Raising (3.1.-17)
8. Argument Raising (3.1.-19)
9. Nominative Nullification (3.1.-25)
10. Lexical Causative Formation (3.6.-14)
11. *SIKHI* Lexical Causative Formation (3.6.-20)
12. Psych-Movement (3.3.-30)
13. Obj/Loc Flip (3.4.-18)
14. Normal Case Marking (2.1.-1)
15. Accusative Intrusion (2.5.-13)
16. Nominative Intrusion (3.5.-21)
17. Special Case Marking (3.3.-29, 3.4.-19, 3.5.-24, 3.6.-9)

Post-cyclical Rules

1. Modality Lowering (3.1.-28)
2. Case Marker/Delimiter Permutation (2.4.-7)
3. Affected Case Marker Deletion (2.5.-8)

4. Case Marker Deletion (2.5.-18)
5. Free Scrambling (2.5.-20)

Appendix II

Base Forms and Variants of Selected Lexical Items

Base Form	Variant (after consonants)	Label
ka	i	Nominative Marker
lɨl	ɨl	Accusative Marker
lo	ɨlo	Instrument Marker
lo	ɨlo	Goal (2) Marker
lo	ɨlo	Adverbial Marker
wa	kwa	Comitative Marker
nɨn	ɨn	Z-delimiter
ya	iya	Z-delimiter
na	ina	Z-delimiter
lato	ilato	Z-delimiter
si	ɨsi	Honorific
sɨp	ɨp (after V or C)	Formal Speech Level
nɨn	ɨn (after vowels)	Indicative Mood
Ass	ass / a or o (C_o^2) ___ əss / elsewhere	Past Tense
Ala	ala / a or o (C_o^2) ___ əla / elsewhere	Command Sentence Type
A	a / a or o (C_o^2) ___ ə / elsewhere	A-Verbal Complementizer

Appendix III

Abbreviations

A	Agent Case
Ajst-M	Adjusted Modality
Acc	Accusative Marker
Acti	Activitive Mood
Adv	Adverbial
Anim	Animate
Apper	Apperceptive Sentence Type
Autho	Authoritative Speech Level
C	Case
Cause	Causative
CMD	Case Marker Deletion
CO	Comitative Case
Com	Comitative Marker
Comm	Command
Comp	Completentizer
Conj	Conjunctor
Conject	Conjecture
E	Experiencer Case
END	Equi-NP Deletion
Exp	Experiencer Marker
Fal	Familiar Speech Level
Fol	Formal Speech Level
Fut	Future Tense

G	Goal Case
Gen	Genitive Marker
Goal	Goal Marker
Hon	Honorific
Hum	Human
I	Instrument Case
Inst	Instrument Marker
Indi	Indicative Mood
Inti	Intimate Speech Level
K	Case Marker as Cover Term
L	Location Case
Loc	Location Marker
Lim	Delimiter
Lit	Literal Translation
M	Modality
Md	Mood
N-Comp	Nominal Complementation
NCM	Normal Case Marking
Neg	Negative
Neut	Neutral Speech Level
Nom	Nominative Marker
O	Object Case
Obl	Obligatory
Opt	Optional
P	Proposition
Pass	Passive

Pl	Pluralizer
Pol	Polite Speech Level
PreM	Pre-Modality
Pres	Present Tense
PS	Phrase Structure
Quant	Quantification
Ques	Question Sentence Type
Retro	Retrospective Mood
S	Sentence
SC	Structural Change
SCM	Special Case Marking
SD	Structural Description
SL	Speech Level
SO	Source Case
Source	Source Marker
Spec	Specifier
Stat	Statement Sentence Type
S-ty	Sentence Type
Subjt	Subjunctive Mood
Sugg	Suggestion Sentence Type
T	Time Case
Tim	Time Marker
Tns	Tense
V-Comp	Verbal Complementation
Voc	Vocative
Vol	Volition

X-lim	X-Delimiter
Y-lim	Y-Delimiter
Z-lim	Z-Delimiter
H, R, U, W, X, Y, Z ...	Variables

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